

## APPENDIX A - PROPOSED REGULATION ORDER

### TABLE OF CONTENTS

<u>Section</u>		<u>Page No.</u>
1.	Section 1900 .....	1
2.	Section 1960.1 .....	3
3.	Section 1961 .....	13
4.	Section 1962 .....	27
5.	Section 1965 .....	36
6.	Section 1968.1 .....	37
7.	Section 1976 .....	38
8.	Section 1978 .....	45
9.	Section 2037 .....	47
10.	Section 2038 .....	48
11.	Section 2062 .....	49
12.	Section 2101 .....	50
13.	Section 2106 .....	52
14.	Section 2107 .....	53
15.	Section 2110 .....	54
16.	Section 2112 .....	55
17.	Section 2114 .....	57
18.	Section 2119 .....	58
19.	Section 2130 .....	59
20.	Section 2137 .....	60
21.	Section 2138 .....	61
22.	Section 2139 .....	62
23.	Section 2140 .....	65
24.	Section 2143 .....	66
25.	Section 2144 .....	67
26.	Section 2145 .....	69
27.	Section 2146 .....	70
28.	Section 2147 .....	71
29.	Section 2148 .....	72

**APPENDIX A - PROPOSED REGULATION ORDER**  
**TITLE 13, California Code of Regulations (CCR)**

Set forth below are the proposed amendments to title 13 of the California Code of Regulations. Additions are shown in underline and deletions are shown in ~~strikeout~~. After each section, there is a summary explanation of the proposed amendments, shown in italics.

1. Amend title 13, CCR, section 1900 to read as follows:

**§1900. Definitions.**

[Subsections (a)(1) through (7) -- No change]

(a)(8) “Light-duty truck” means any 2000 and subsequent model motor vehicle certified to the standards in section 1961(a)(1) rated at 8,500 pounds gross vehicle weight or less, and any other motor vehicle rated at 6,000 pounds gross vehicle weight or less, which is designed primarily for purposes of transportation of property or is a derivative of such a vehicle, or is available with special features enabling off-street or off-highway operation and use.

(a)(9) “Medium-duty vehicle” means any pre-1995 model year heavy-duty vehicle having a manufacturer’s gross vehicle weight rating of 8,500 pounds or less; any 1992 through 2006 and subsequent model-year heavy-duty low-emission, vehicle or ultra-low-emission, super-low-emission or zero-emission vehicle certified to the standards in section 1960.1(h)(2) having a manufacturer’s gross vehicle weight rating of 14,000 pounds or less; or any 1995 through 2002 and subsequent model year heavy-duty vehicle certified to the standards in section 1960.1(h)(1) having a manufacturer’s gross vehicle weight rating of 14,000 pounds or less; and any 2000 and subsequent model heavy-duty low-emission, ultra-low-emission, super-ultra-low-emission or zero-emission vehicle certified to the standards in Section 1961(a)(1) or 1962 having a manufacturer’s gross vehicle weight rating between 8,501 and 14,000 pounds.

[Subsections (a)(9) through (16) -- No change]

(17) “Small volume manufacturer” means — except as otherwise provided in sections 1960.1(g)(2) (compliance with fleet average NMOG requirements for 1994 - 2000 model-year passenger cars, light-duty trucks); 1960.1(h)(2) (“LEV I” requirements for 1992 through 2006 medium-duty vehicles) and 1960.1(n) (vehicles subject to the federal “in lieu” standards) — any 2001 and subsequent model-year manufacturer with California sales less than 4,500 new passenger cars, light-duty trucks, medium-duty vehicles, heavy-duty vehicles and heavy-duty engines based on the average number of vehicles sold for the three previous consecutive model

years for which a manufacturer seeks certification; however, for manufacturers certifying for the first time in California model year sales shall be based on projected California sales.

(18) “Intermediate volume manufacturer” is any pre-2001 model year manufacturer with California sales between 3,001 and 35,000 new light- and medium-duty vehicles per model year based on the average number of vehicles sold by the manufacturer each model year from 1989 to 1993; any 2001 through 2002 model year manufacturer with California sales between 4,501 and 35,000 new light- and medium-duty vehicles per model year based on the average number of vehicles sold by the manufacturer each model year from 1989 to 1993; and any 2003 and subsequent model year manufacturer with California sales between 4,501 and 35,000 new light- and medium-duty vehicles based on the average number of vehicles sold for the three previous consecutive model years for which a manufacturer seeks certification. For a manufacturer certifying for the first time in California, model year sales shall be based on projected California sales.

(19) “Large volume manufacturer” means any 2000 and subsequent model year manufacturer that is not a small volume manufacturer or an intermediate volume manufacturer.

Note: Authority cited: Sections 39600, 39601, 43013, 43018, 43101, and 43104 Health and Safety Code.  
Reference: Sections 39002, 39003, 39010, 39500, 40000, 43000, 43013, 43100, 43101, 43101.5, 43102, ~~43103~~, 43104, 43106, and 43204, Health and Safety Code.

### ***Summary Explanation of Proposed Modifications***

*The modifications to the light-duty truck and medium-duty vehicle definitions are being proposed as a result of the proposed new LEV II standards which are based on a restructuring of the light-duty truck and medium-duty vehicle categories from the current 6,000 pound gross vehicle weight (GVW) cutpoint to 8,500 pounds GVW. The definitions of small, intermediate and large volume manufacturer have been moved from other sections and also revised to reflect CAP 2000 amendments. The revision to the criteria for determining intermediate volume manufacturer status is a result of proposed amendments to the ZEV requirements (see Part II of the staff report for an explanation of these changes.)*

2. Amend title 13, CCR, section 1960.1 to read as follows:

**§1960.1. Exhaust Emission Standards and Test Procedures - 1981 through 2006 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.**

[Subsections (a) through (e)(1) -- No change]

(e)(2) The exhaust emissions from new 1993 through 2003 and subsequent model methanol-fueled vehicles, including fuel-flexible vehicles, shall meet all the applicable requirements in (e)(1), (f)(1) and (f)(2) with the following modifications and additions:

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**1993 THROUGH 2003 AND SUBSEQUENT METHANOL-SPECIFIC EXHAUST EMISSION STANDARDS**

Vehicle Type <sup>1</sup>	Loaded Vehicle Weight (lbs.) <sup>3</sup>	Durability Vehicle Basis (mi)	Formaldehyde (mg/mi)	
			Certification	In-Use Compliance <sup>2</sup>
PC	All	50,000	15	23 (1993-1995) 15 (1996- <del>2003</del> and later)
LDT,MDV	0-3750	50,000	15	23 (1993-1995) 15 (1996- <del>2003</del> and later)
LDT,MDV	3751-5750	50,000	18	27 (1993-1995) 18 (1996- <del>2003</del> and later)
MDV	5751-8500	50,000	22	33 (1993-1995) 22 (1996- <del>2003</del> and later)
MDV	8501-10,000	50,000	28	36 (1995) 28 (1996- <del>2003</del> and later)
MDV	10,001-14,000	50,000	36	45 (1995) 36 (1996- <del>2003</del> and later)

- (1) "PC" means passenger cars.  
 "LDT" means light-duty trucks.  
 "MDV" means medium-duty vehicles.
- (2) If the formaldehyde in-use compliance level is above the respective certification level but does not exceed the in-use compliance level, and based on a review of information derived from a statistically valid and representative sample of vehicles, the Executive Officer determines that a substantial

percentage of any class or category of such vehicle exhibits, prior to 50,000 miles or 5 years, whichever occurs first, an identifiable, systematic defect in a component listed in Section 1960.1.5(c)(2), Title 13 California Code of Regulations, which causes a significant increase in emissions above those exhibited by vehicles free of such defects and of the same class or category and having the same period of use and mileage, the Executive Officer may invoke the enforcement authority under subchapter 2.5, Title 13, California Code of Regulations, commencing with Section 2111, to require remedial action by the vehicle manufacturer. Such remedial action shall be limited to owner notification and repair or replacement of the defect component. As used in this section, the term "defect" shall not include failures which are the result of abuse, neglect, or improper maintenance.

- (3) For 1995-~~2003~~ and ~~subsequent~~ model year medium-duty vehicles certifying to the standards and test procedures specified in Section 1960.1(h)(1), Title 13, California Code of Regulations, "Loaded Vehicle Weight" shall mean "Test Weight", which is the average of the vehicle's curb weight and gross vehicle weight.

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(e)(3) The exhaust emissions from new 1992 through 2006 and ~~subsequent~~ model-year "LEV I" transitional low-emission vehicles, low-emission vehicles, ultra-low emission vehicles, and super ultra-low-emission vehicles, including fuel-flexible and dual-fuel vehicles, shall meet all the requirements in (g)(1), and (h)(2) with the following additions: [No change to remainder of section.]

[Subsection (f)(1) -- No change.]

(f)(2) *"Tier 1" Exhaust Emission Standards for PCs and LDTs.* The exhaust emissions from new 1995 through 2003 and ~~subsequent~~ model passenger cars and light-duty trucks shall not exceed:

**1995-~~2003~~ AND SUBSEQUENT MODEL-YEAR PASSENGER CAR AND  
LIGHT-DUTY TRUCK EXHAUST EMISSIONS STANDARDS<sup>5,6,8,10</sup>**  
(grams per mile)

[No change to remainder of section.]

(g)(1) *"LEV I" Exhaust Emission Standards for PCs and LDTs.* The exhaust emissions from new 1992 through 2006 and ~~subsequent~~ model-year light-duty transitional low-emission vehicles, low-emission vehicles, and ultra-low-emission vehicles, ~~and new pre-2003 and subsequent model-year light-duty zero-emission vehicles,~~ in the passenger and light-duty truck classes shall not exceed:

**EXHAUST EMISSION STANDARDS  
FOR TRANSITIONAL LOW-EMISSION VEHICLES, LOW-EMISSION VEHICLES,  
ULTRA-LOW-EMISSION VEHICLES AND ZERO-EMISSION VEHICLES  
IN PASSENGER CAR AND LIGHT-DUTY TRUCK VEHICLE CLASSES<sup>6,7,8,9,10</sup>**

[grams per mile (or “g/mi”)]

<i>Vehicle Type<sup>1</sup></i>	<i>Loaded Vehicle Weight (lbs)</i>	<i>Durability Vehicle Basis(mi)</i>	<i>Vehicle Emission Category<sup>2</sup></i>	<i>Non-Methane Organic Gases<sup>3,4</sup></i>	<i>Carbon Monoxide</i>	<i>Oxides of Nitrogen<sup>5</sup></i>
PC and LDT	All 0-3750	50,000	TLEV	0.125	3.4	0.4
			LEV	0.075	3.4	0.2
			ULEV	0.040	1.7	0.2
			<del>ZEV<sup>2,†</sup></del>	--	--	--
		100,000	TLEV	0.156	4.2	0.6
			LEV	0.090	4.2	0.3
			ULEV	0.055	2.1	0.3
			<del>ZEV<sup>2,†</sup></del>	--	--	--
LDT	3751-5750	50,000	TLEV	0.160	4.4	0.7
			LEV	0.100	4.4	0.4
			ULEV	0.050	2.2	0.4
			<del>ZEV<sup>2,†</sup></del>	--	--	--
		100,000	TLEV	0.200	5.5	0.9
			LEV	0.130	5.5	0.5
			ULEV	0.070	2.8	0.5
			<del>ZEV<sup>2,†</sup></del>	--	--	--

- (1) “PC” means passenger cars.  
“LDT” means light-duty trucks.  
“LVW” means loaded vehicle weight.  
“Non-Methane Organic Gases” or “NMOG” means the total mass of oxygenated and non-oxygenated hydrocarbon emissions.
- (2) “TLEV” means transitional low-emission vehicle.  
“LEV” means low-emission vehicle.  
“ULEV” means ultra-low-emission vehicle.  
~~“ZEV” means zero-emission vehicle.~~
- (2.1) a. The Executive Officer shall certify as ZEVs vehicles that produce zero exhaust emissions of any criteria pollutant (or precursor pollutant) under any and all possible operational modes and conditions. Incorporation of a fuel fired heater shall not preclude a vehicle from being certified as a ZEV provided the fuel fired heater cannot be operated at ambient temperatures above

40°F and the heater is demonstrated to have zero evaporative emissions under any and all possible operational modes and conditions.

Subsections (3) through (10) -- [No change.]

(11) NMOG Credit for Direct Ozone Reduction Technology. A manufacturer that certifies vehicles equipped with direct ozone reduction technologies shall be eligible to receive NMOG credits that can be applied to the NMOG exhaust emissions when determining compliance with the standard. In order to receive credit, the manufacturer must submit the following information for each vehicle model, including, but not limited to:

- (a) a demonstration of the airflow rate through the direct ozone reduction device and the ozone-reducing efficiency of the device over the range of speeds encountered in the SFTP test cycle;
- (b) an evaluation of the durability of the device for the full useful life of the vehicle; and
- (c) a description of the on-board diagnostic strategy for monitoring the performance of the device in-use.

Using the above information, the Executive Officer shall determine the value of the NMOG credit based on the calculated change in the one-hour peak ozone level using an approved airshed model.

(g)(2) The fleet average non-methane organic gas exhaust emission values from passenger cars and light-duty trucks produced and delivered for sale in California by a manufacturer each model year from 1994 through 2000 shall not exceed:

**FLEET AVERAGE NON-METHANE ORGANIC GAS EXHAUST MASS EMISSION  
REQUIREMENTS FOR LIGHT-DUTY VEHICLE WEIGHT CLASSES**  
[grams per mile" (or "g/mi")]

<i>Vehicle Type</i>	<i>Loaded Vehicle Weight (lbs.)</i>	<i>Durability Vehicle Basis (mi)</i>	<i>Model Year</i>	<i>Fleet Average Non-Methane Organic Gases</i>
PC and LDT	All 0-3750	50,000	1994	0.250
			1995	0.231
			1996	0.225
			1997	0.202
			1998	0.157
			1999	0.113
			2000	0.073
			<del>2001</del>	<del>0.070</del>
			<del>2002</del>	<del>0.068</del>
			<del>2003 and subsequent</del>	<del>0.062</del>
LDT	3751-5750	50,000	1994	0.320
			1995	0.295

1996	0.287
1997	0.260
1998	0.205
1999	0.150
2000	0.099
2001	0.098
2002	0.095
2003 and subsequent	0.093

[Footnotes (1) through (8) -- No change.]

(9) *ZEV Requirements.* While meeting the fleet average requirements, each manufacturer shall certify, produce, and deliver for sale in California at least 10% ZEVs in 2003 and subsequent model years. These percentages shall be applied to the manufacturer's total production of PCs and LDVs 0-3750 lbs. LVW delivered for sale in California:

a. *Calculation of ZEV Credits.* Manufacturers that produce for sale in California more ZEVs than required in a given model year shall earn ZEV credits, which shall be expressed in units of g/mi NMOG. The amount of ZEV credits earned shall be equal to the number of ZEVs required to be produced and delivered for sale in California for the model year subtracted from the number of ZEVs produced and delivered for sale in California by the manufacturer for the model year and then multiplied by the fleet average NMOG requirement for PCs and LDVs 0-3750 lbs. LVW for the model year.

In calculating the number of ZEV credits under this note (9)a, each ZEV produced and delivered for sale prior to the 2003 model year may be counted as follows:

1. ZEV Credits based on vehicle range:

Number of ZEVs	Vehicle Range (miles)		
	Model Years 1996 and 1997	Model Years 1998 and 1999	Model Years 2000, 2001 and 2002
2	any	≥100	≥140
3	≥70	≥130	≥175

Range shall be determined in accordance with section 9.f.(2)(a) of the "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles," incorporated by reference in section 1960.1(k):

2. ZEV Credits based on the specific energy of the battery:

Number of ZEVs	Specific Energy of Battery (w-hr/kg)		
	Model Years 1996, 1997 and 1998	Model Years 1999 and 2000	Model Years 2001 and 2002
2	any	≥50	≥60
3	≥40	≥60	≥90

For model years 1999 through 2002, additional ZEV credits will be determined by linear interpolation between the values shown in the above schedule. Battery specific energy shall be determined in accordance with section 9.g. of the "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles," incorporated by reference in section 1960.1(k).

3. For purposes of calculating ZEV credits, a ZEV may be counted according to note (9)a.1. or (9)a.2. above, but not both.

4. For purposes of calculating manufacturer's fleet average NMOG value under note (4) or (5), each ZEV shall be counted as one vehicle.

All ZEV credits earned prior to the 2003 model year shall be treated as if earned in the 2003 model year and shall be discounted in accordance with note (7)c.

b. *Submittal of ZEV Credits.* A manufacturer may meet the ZEV requirements in any given model year by submitting to the Executive Officer a commensurate amount of ZEV credits. These credits may be earned previously by the manufacturer or acquired from another manufacturer. The amount of ZEV credits required to be submitted shall be calculated by subtracting the number of ZEVs produced and delivered for sale in California by the manufacturer for the model year from the number of ZEVs required to be produced by the manufacturer for the model year and then multiplying by the fleet average requirement for PCs and LDTs 0-3750 lbs. LVW for that model year.

c. *Requirement to Make Up a ZEV Deficit.* Manufacturers that certify, produce, and deliver for sale in California fewer ZEVs than required in a given model year shall make up the deficit by the end of the next model year by submitting to the Executive Officer a commensurate amount of ZEV credits. The amount of ZEV credits required to be submitted shall be calculated by subtracting the number of ZEVs produced and delivered for sale in California by the manufacturer for the model year from the number of ZEVs required to be produced by the manufacturer for the model year and then multiplying by the fleet average requirements for PCs and LDTs 0-3750 lbs. LVW for the model year in which the deficit is incurred.

d. *Penalty for Failure to Meet ZEV Requirements.* Any manufacturer that fails to produce and deliver for sale in California the required number of ZEVs or submit an appropriate amount of ZEV credits and does not make up ZEV deficits within the specified time period shall be subject to the Health and Safety Code section 43211 civil penalty applicable to a manufacturer that sells a new motor vehicle that does not meet the applicable emission standards adopted by the state board. The cause of action shall be deemed to accrue when the ZEV deficits are not balanced by the end of the specified time period. For the purposes of Health and Safety Code section 43211, the number of vehicles not meeting the state board's standards shall be calculated according to the following equation:

$$(\text{No. of ZEVs required to be produced and delivered for sale in California for the model year}) - (\text{No. of ZEVs actually produced and delivered for sale in California for the model year}) - [(\text{Amount of ZEV credits submitted for the model year}) / (\text{the fleet average requirement for PCs and LDTs 0-3750 lbs. LVW for the model year})]$$

e. *ZEV Credits for MDVs and LDTs 3751-5750 lbs. LVW.* ZEVs classified as MDVs or as LDTs 3751-5750 lbs. LVW may be counted toward the ZEV requirement for PCs and LDTs 0-3750 lbs. LVW and included in the calculation of ZEV credits as specified in note (9)a, if the manufacturer so designates.

f. ~~Small volume manufacturers as defined in note (6) shall not be required to meet the percentage ZEV requirements. However, small volume manufacturers may earn and market credits for ZEVs they produce and deliver for sale in California.~~

(h)(1) “Tier 1” Exhaust Emission Standards for MDVs. The exhaust emission from new 1995 ~~through 2003 and subsequent~~ model medium-duty vehicles shall not exceed:

**1995-2003 AND SUBSEQUENT MODEL-YEAR MEDIUM-DUTY VEHICLE  
EXHAUST EMISSIONS STANDARDS** <sup>1,2,3,7,8</sup>  
(grams per mile)

[The remainder of section -- No change.]

(h)(2) “LEV I” Exhaust Emission Standards for MDVs. The exhaust emissions from new 1992 ~~through 2006 and subsequent~~ model-year medium-duty low-emission vehicles, ultra-low-emission vehicles and super ultra-low-emission vehicles, ~~and new 2003 and subsequent model-year medium-duty zero-emission vehicles~~ shall not exceed:

**EXHAUST EMISSION STANDARDS FOR  
LOW-EMISSION VEHICLES, ULTRA-LOW EMISSION VEHICLES, AND  
SUPER-ULTRA-LOW-EMISSION VEHICLES AND ZERO-EMISSION VEHICLES  
IN THE MEDIUM-DUTY VEHICLE WEIGHT CLASS** <sup>8,9,10,11,12,13,14,15,16</sup>  
[grams per mile (or "g/mi")]

<i>Test Weight (lbs)<sup>1</sup></i>	<i>Durability Vehicle Basis (mi)</i>	<i>Vehicle Emission Category<sup>2</sup></i>	<i>Non-Methane Organic Gases<sup>1,3,4</sup></i>	<i>Carbon Monoxide</i>	<i>Oxides of Nitrogen<sup>3,5</sup></i>	<i>Particulates<sup>6,7</sup></i>
0-3750	50,000	LEV	0.125	3.4	0.4	n/a
		ULEV	0.075	1.7	0.2	n/a
		ZEV <sup>2+</sup>	--	--	--	--
	120,000	LEV	0.180	5.0	0.6	0.08
		ULEV	0.107	2.5	0.3	0.04
		ZEV <sup>2+</sup>	--	--	--	--
3751-5750	50,000	LEV	0.160	4.4	0.4	n/a
		ULEV	0.100	4.4	0.4	n/a
		SULEV	0.050	2.2	0.2	n/a
	120,000	ZEV <sup>2+</sup>	--	--	--	--
		LEV	0.230	6.4	0.6	0.10
		ULEV	0.143	6.4	0.6	0.05
		SULEV	0.072	3.2	0.3	0.05

		ZEV <sup>2+</sup>	--	--	--	--
5751-8500	50,000	LEV	0.195	5.0	0.6	n/a
		ULEV	0.117	5.0	0.6	n/a
		SULEV	0.059	2.5	0.3	n/a
		ZEV <sup>2+</sup>	--	--	--	--
	120,000	LEV	0.280	7.3	0.9	0.12
		ULEV	0.167	7.3	0.9	0.06
		SULEV	0.084	3.7	0.45	0.06
		ZEV <sup>2+</sup>	--	--	--	--
8501-10,000	50,000	LEV	0.230	5.5	0.7	n/a
		ULEV	0.138	5.5	0.7	n/a
		SULEV	0.069	2.8	0.35	n/a
		ZEV <sup>2+</sup>	--	--	--	--
	120,000	LEV	0.330	8.1	1.0	0.12
		ULEV	0.197	8.1	1.0	0.06
		SULEV	0.100	4.1	0.5	0.06
		ZEV <sup>2+</sup>	--	--	--	--
10,001-14,000	50,000	LEV	0.300	7.0	1.0	n/a
		ULEV	0.180	7.0	1.0	n/a
		SULEV	0.09	3.5	0.5	n/a
		ZEV <sup>2+</sup>	--	--	--	--
	120,000	LEV	0.430	10.3	1.5	0.12
		ULEV	0.257	10.3	1.5	0.06
		SULEV	0.130	5.2	0.7	0.06
		ZEV <sup>2+</sup>	--	--	--	--

- (1) "Test Weight" (or "TW") shall mean the average of the vehicle's curb weight and gross vehicle weight.  
"Non-Methane Organic Gases" (or "NMOG") means the total mass of oxygenated and non-oxygenated hydrocarbon emissions.
- (2) "LEV" means low-emission vehicle.  
"ULEV" means ultra-low-emission vehicle.  
"SULEV" means super-ultra-low-emission vehicle.  
"ZEV" means zero-emission vehicle:
- (2.1) a. ~~The Executive Officer shall certify as ZEVs vehicles that produce zero exhaust emissions of any criteria pollutant (or precursor pollutant) under any and all possible operational modes and conditions. Incorporation of a fuel fired heater shall not preclude a vehicle from being certified as a ZEV provided the fuel fired heater cannot be operated at ambient temperatures above 40°F and the heater is demonstrated to have zero evaporative emissions under any and all possible operational modes and conditions.~~
- b. ~~Prior to the 2003 model year a manufacturer that voluntarily produces vehicles that meet the ZEV emission standards applicable to 2003 and subsequent model year vehicles may certify those vehicles as ZEVs for the purposes of calculating ZEV credits under section (g)(2), note (9)a. and (9)c.~~

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[No change to the remainder of this section.]

[Subsections (i) and (j) -- No change.]

(k) The test procedures for determining compliance with these standards are set forth in “California Exhaust Emission Standards and Test Procedures for 1981 through 1987 Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles,” adopted by the state board on November 23, 1976, as last amended May 20, 1987, and in “California Exhaust Emission Standards and Test Procedures for 1988 through 2000 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles,” adopted by the state board on May 20, 1987 as last amended ~~March 19, 1998~~ [Insert date of amendment], both which are incorporated herein by reference, and in “California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles,” as incorporated by reference in section 1961(d).

[Subsections (l) through (m) -- No change.]

(n) For purposes of this section and section 1960.1.5, “small volume manufacturer” is any vehicle manufacturer which was subject to “in lieu” standards pursuant to section 202(b)(1)(B) of the Federal Clean Air Act (42 U.S.C. section 7521(b)(1)(B), as amended November 16, 1977) or a vehicle manufacturer with pre-2001 model year California sales not exceeding 3,000 new motor vehicles per model year based on previous model-year sales; however, for manufacturers certifying for the first time in California model year sales shall be based on projected California sales.

~~(o) For the purposes of this section, an “intermediate volume manufacturer” is any manufacturer with California sales between 3,001 and 35,000 new light- and medium-duty vehicles per model year based on the average number of vehicles sold by the manufacturer each model year from 1989 to 1993; however, for manufacturers certifying for the first time in California, model-year sales shall be based on projected California sales. [Reserved]~~

(p) The cold temperature exhaust carbon monoxide emission levels from new 1996 through 2000 and subsequent model-year passenger cars, light-duty trucks and medium-duty vehicles shall not exceed: [No change to remainder of section.]

[Subsection (q) -- no change.]

(r) The Supplemental Federal Test Procedure (SFTP) standards in this section represent the maximum SFTP exhaust emissions at 4,000 miles  $\pm$  250 miles or at the mileage determined by the manufacturer for emission-data vehicles in accordance with the “California Exhaust Emission Standards and Test Procedures for 1988 Through 2000 and Subsequent Model

Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles,” as incorporated by reference in section 1960.1(k), and with the “California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles,” as incorporated by reference in section 1961(d). The SFTP exhaust emission levels from new 2001 and subsequent model low-emission vehicles, ~~and~~ ultra-low-emission vehicles and super ultra-low-emission vehicles in the passenger car and light-duty truck class, and new 2003 and subsequent low-emission vehicles, ultra-low-emission vehicles, and super-ultra-low-emission vehicles in the medium-duty class, shall not exceed: [No change to remainder of section]

Note: Authority cited: Sections 39600, 39601, 43013, 43018, 43101, 43104 and 43105, Health and Safety Code. Reference: Sections 39002, 39003, 39667, 43000, 43009.5, 43013, 43018, 43100, 43101, 43101.5, 43102, 43103, 43104, 43105, 43106, 43107, 43204, and 43205.5, Health and Safety Code.

### ***Summary Explanation of Proposed Modifications***

*Section 1960.1(g) and (h) contains the emission standards and test procedures for low-emission vehicles that were promulgated by the Board in 1990. The proposed LEV II standards would be contained in new section 1961. Manufacturers would have four model years — 2004 to 2007 — in which to phase in certification of vehicles to the LEV II standards in accordance with the phase-in schedules in section 1961(b)(2). A manufacturer would be able to certify at least some of its vehicles to the LEV I standards through the 2006 model year (the Tier 1 standards will be sunsetted in the 2003 model year for light-duty vehicles and in the 2003 model year for medium-duty vehicles). The LEV II standards will apply to at least some of a manufacturer’s vehicles starting with the 2004 model year, and a manufacturer would have the option of certifying earlier model-year vehicles to the LEV II standards in order to earn NMOG emission credits. The fleet average standards in section 1960.1(g)(2) for the 2001 through 2003 model years would be moved to section 1961(b), but there would be no changes to the numerical fleet average requirements for these years.*

*All 2001 and subsequent model vehicles would be subject to the CAP 2000 certification requirements, which would be contained in a new document entitled “California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles” (“the proposed new LDV/MDV TPs”). The proposed new LDV/MDV TPs would contain both the LEV I and the LEV II standards, along with the Tier 1 standards, and would be referenced by both section 1960.1(k) and section 1961(d).*

*All of the ZEV provisions, in section 1960.1(g)(2) footnote (2.1) and in section 1960.1(g)(2) footnote (9), are being moved to section 1962, which will be devoted solely to ZEVs.*

3. Adopt title 13, CCR section 1961 to read as follows:

**§1961. Exhaust Emission Standards and Test Procedures - 2004 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.**

This section 1961 contains the California “LEV II” exhaust emission standards for 2004 and subsequent model passenger cars, light-duty trucks and medium-duty vehicles. A manufacturer must demonstrate compliance with the exhaust standards in section 1961(a) applicable to specific test groups, and with the composite phase-in requirements in section 1961(b) applicable to the manufacturer’s entire fleet. Section 1961(b) also includes the manufacturer’s fleet-wide composite phase-in requirements for the 2001 - 2003 model years.

Prior to the 2004 model year, a manufacturer that produces vehicles that meet the standards in section 1961(a) has the option of certifying the vehicles to those standards, in which case the vehicles will be treated as LEV II vehicles for purposes of the fleet-wide phase-in requirements. Similarly, 2004 - 2006 model-year vehicles may be certified to the “LEV I” exhaust emission standards in section 1960.1(g)(1) and (h)(2), in which case the vehicles will be treated as LEV I vehicles for purposes of the fleet-wide phase-in requirements.

A manufacturer has the option of certifying engines used in incomplete and diesel medium-duty vehicles with a gross vehicle weight rating of greater than 8,500 lbs. to the heavy-duty engine standards and test procedures set forth in title 13, CCR, sections 1956.8(g) and (h).

(a) *Exhaust Emission Standards.*

(1) *“LEV II” Exhaust Standards.* The following standards represent the maximum exhaust emissions for the intermediate and full useful life from new 2004 and subsequent model-year TLEVs, LEVs, ULEVs, and SULEVs, including fuel-flexible, bi-fuel and dual fuel vehicles when operating on the gaseous or alcohol fuel they are designed to use:

**Exhaust Mass Emission Standards for New 2004 and Subsequent Model  
TLEVs, LEVs, ULEVs, and SULEVs  
in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes**

<u>Vehicle Type</u>	<u>Durability Vehicle Basis (mi)</u>	<u>Vehicle Emission Category</u>	<u>NMOG (g/mi)</u>	<u>Carbon Monoxide (g/mi)</u>	<u>Oxides of Nitrogen (g/mi)</u>	<u>Formaldehyde (mg/mi)</u>	<u>Particulate from diesel vehicles (g/mi)</u>	
<u>All PCs;</u> <u>LDTs &lt;8,500 lbs. GVW</u>  <u>Vehicles in this category are tested at their loaded vehicle weight.</u>	50,000	<u>TLEV</u>	<u>0.125</u>	<u>3.4</u>	<u>0.4</u>	<u>15</u>	<u>n/a</u>	
		<u>LEV</u>	<u>0.075</u>	<u>3.4</u>	<u>0.05</u>	<u>15</u>	<u>n/a</u>	
		<u>LEV, Option 1</u>	<u>0.075</u>	<u>3.4</u>	<u>0.07</u>	<u>15</u>	<u>n/a</u>	
		<u>ULEV</u>	<u>0.040</u>	<u>1.7</u>	<u>0.05</u>	<u>8</u>	<u>n/a</u>	
	120,000	<u>TLEV</u>	<u>0.156</u>	<u>4.2</u>	<u>0.6</u>	<u>18</u>	<u>0.04</u>	
		<u>LEV</u>	<u>0.090</u>	<u>4.2</u>	<u>0.07</u>	<u>18</u>	<u>0.01</u>	
		<u>LEV, Option 1</u>	<u>0.075</u>	<u>3.4</u>	<u>0.09</u>	<u>15</u>	<u>n/a</u>	
		<u>ULEV</u>	<u>0.055</u>	<u>2.1</u>	<u>0.07</u>	<u>11</u>	<u>0.01</u>	
		<u>SULEV</u>	<u>0.010</u>	<u>1.0</u>	<u>0.02</u>	<u>4</u>	<u>0.01</u>	
	150,000 (Optional)	<u>TLEV</u>	<u>0.156</u>	<u>4.2</u>	<u>0.6</u>	<u>18</u>	<u>0.04</u>	
		<u>TLEV, Option 1</u>	<u>0.125</u>	<u>3.4</u>	<u>0.5</u>	<u>15</u>	<u>n/a</u>	
		<u>LEV</u>	<u>0.090</u>	<u>4.2</u>	<u>0.07</u>	<u>18</u>	<u>0.01</u>	
		<u>LEV, Option 1</u>	<u>0.075</u>	<u>3.4</u>	<u>0.09</u>	<u>15</u>	<u>n/a</u>	
		<u>ULEV</u>	<u>0.055</u>	<u>2.1</u>	<u>0.07</u>	<u>11</u>	<u>0.01</u>	
		<u>SULEV</u>	<u>0.010</u>	<u>1.0</u>	<u>0.02</u>	<u>4</u>	<u>0.01</u>	
	<u>MDVs</u> <u>8500 - 10,000 lbs. GVW</u> <u>Vehicles in this category are tested at their adjusted loaded vehicle weight</u>	120,000	<u>LEV</u>	<u>0.195</u>	<u>6.4</u>	<u>0.2</u>	<u>32</u>	<u>0.12</u>
			<u>ULEV</u>	<u>0.143</u>	<u>6.4</u>	<u>0.2</u>	<u>16</u>	<u>0.06</u>
			<u>SULEV</u>	<u>0.100</u>	<u>3.2</u>	<u>0.1</u>	<u>8</u>	<u>0.06</u>
150,000 (Optional)		<u>LEV</u>	<u>0.195</u>	<u>6.4</u>	<u>0.2</u>	<u>32</u>	<u>0.12</u>	
		<u>ULEV</u>	<u>0.143</u>	<u>6.4</u>	<u>0.2</u>	<u>16</u>	<u>0.06</u>	
		<u>SULEV</u>	<u>0.100</u>	<u>3.2</u>	<u>0.1</u>	<u>8</u>	<u>0.06</u>	

Vehicle Type	Durability Vehicle Basis (mi)	Vehicle Emission Category	NMOG (g/mi)	Carbon Monoxide (g/mi)	Oxides of Nitrogen (g/mi)	Formaldehyde (mg/mi)	Particulate from diesel vehicles (g/mi)
MDVs 10,001-14,000 lbs. GVW Vehicles in this category are tested at their adjusted loaded vehicle weight	120,000	LEV	0.230	7.3	0.4	40	0.12
		ULEV	0.167	7.3	0.4	21	0.06
		SULEV	0.117	3.7	0.2	10	0.06
	150,000 (Optional)	LEV	0.230	7.3	0.4	40	0.12
		ULEV	0.167	7.3	0.4	21	0.06
		SULEV	0.117	3.7	0.2	10	0.06

(2) *Reactivity Adjustment in Determining Compliance with the NMOG Standard*

(A) The NMOG emission results from all TLEVs, LEVs, ULEVs and SULEVs certifying on a fuel other than conventional gasoline shall be numerically adjusted to establish an NMOG exhaust mass emission value equivalent. The manufacturer shall multiply measured NMOG exhaust emission results by the appropriate reactivity adjustment factor set forth in section 1961(a)(2)(B) or established in accordance with the test procedures incorporated by reference in section 1961(d). The reactivity adjustment factor represents the ratio of the NMOG specific reactivity of a low-emission vehicle designed to operate on a fuel other than conventional gasoline compared to the NMOG baseline specific reactivity of vehicles in the same vehicle emission category operated on conventional gasoline.

(B) The following reactivity adjustment factors apply through the 2003 model year:

	<b>Light-Duty Vehicles</b> 0-6000 lbs. GVW			<b>Medium-Duty Vehicles</b> 6001 lbs. - 14,000 lbs. GVW	
	TLEV	LEV	ULEV	LEV	ULEV
<b>Fuel</b>	<b>Baseline Specific Reactivity</b> (grams ozone / gram NMOG)				
Conventional Gasoline	3.42	3.13	3.13	3.13	3.13
	<b>Reactivity Adjustment Factors</b>				
Phase 2 RFG	0.98	0.94	0.94	0.94	0.94
M85	0.41	0.41	0.41	0.41	0.41
Natural Gas	1.0	0.43	0.43	0.43	0.43
LPG	1.0	0.50	0.50	0.50	0.50
	<b>Methane Reactivity Adjustment Factors</b>				

Natural Gas	0.0043	0.0047	0.0047	0.0047	0.0047
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(3) NMOG Standards for Bi-Fuel, Fuel-Flexible and Dual-Fuel Vehicles Operating on Gasoline. For fuel-flexible, bi-fuel, and dual-fuel PCs, LDTs and MDVs, compliance with the NMOG exhaust mass emission standards shall be based on exhaust emission tests both when the vehicle is operated on the gaseous or alcohol fuel it is designed to use, and when the vehicle is operated on gasoline. A manufacturer must demonstrate compliance with the applicable exhaust mass emission standards for NMOG, CO, NOx and formaldehyde set forth in the table in section 1961(a)(1) when certifying the vehicle for operation on the gaseous or alcohol fuel.

The following standards represent the maximum NMOG emissions when the vehicle is operating on gasoline. A manufacturer shall not apply a reactivity adjustment factor to the exhaust NMOG mass emission result when operating on gasoline. Testing at 50°F is not required for fuel-flexible, bi-fuel and dual-fuel vehicles when operating on gasoline. The applicable CO, NOx and formaldehyde standards are set forth in section 1961(a)(1).

<b>LEV II NMOG Standards for Bi-Fuel, Fuel-Flexible and Dual-Fuel Vehicles Operating on Gasoline (g/mi)</b>			
Vehicle Type	Vehicle Emission Category	Durability Vehicle Basis	
		50,000 mi	120,000 mi
All PCs; LDTs, 0-8500 lbs. GVW	TLEV	0.25	0.31
	LEV	0.125	0.156
	ULEV	0.075	0.090
	SULEV	0.010	0.040
MDVs, 8501-10,000 lbs. GVW	LEV	n/a	0.230
	ULEV	n/a	0.167
	SULEV	n/a	0.117
MDVs, 10,000-14,000 lbs. GVW	LEV	n/a	0.280
	ULEV	n/a	0.195
	SULEV	n/a	0.143

(4) 50°F Exhaust Emission Standards. All light- and medium-duty TLEVs, LEVs, ULEVs and SULEVs must demonstrate compliance with the following exhaust emission standards for NMOG and formaldehyde (HCHO) measured on the FTP (40 CFR, Part 86, Subpart B) conducted at a nominal test temperature of 50°F, as modified by Part II, Section C of the

“California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles” incorporated by reference in section 1961(d). The NMOG mass emission result shall be multiplied by the applicable reactivity adjustment factor, if any, prior to comparing to the applicable adjusted 50,000 mile certification standards set forth below. Emissions of CO and NOx measured at 50°F shall not exceed the standards set forth in §1961(a)(1) applicable to vehicles of the same emission category and vehicle type subject to a cold soak and emission test at 68° to 86°F. Natural gas and diesel-fueled vehicles are exempt from the 50° F test requirements.

<u>Vehicle Weight Class</u>	<u>Vehicle Emission Category (g/mi)</u>							
	<u>TLEV</u>		<u>LEV</u>		<u>ULEV</u>		<u>SULEV</u>	
	<u>NMOG</u>	<u>HCHO</u>	<u>NMOG</u>	<u>HCHO</u>	<u>NMOG</u>	<u>HCHO</u>	<u>NMOG</u>	<u>HCHO</u>
<u>PCs; LDTs 0-8500 lbs. GVW</u>	<u>0.25</u>	<u>0.030</u>	<u>0.150</u>	<u>0.030</u>	<u>0.080</u>	<u>0.016</u>	<u>0.02</u>	<u>0.008</u>
<u>MDVs 8501-10,000 lbs. GVW</u>	<u>n/a</u>	<u>n/a</u>	<u>0.390</u>	<u>0.044</u>	<u>0.286</u>	<u>0.022</u>	<u>0.200</u>	<u>0.012</u>
<u>MDVs 10,001-14,000 lbs. GVW</u>	<u>n/a</u>	<u>n/a</u>	<u>0.460</u>	<u>0.056</u>	<u>0.334</u>	<u>0.028</u>	<u>0.234</u>	<u>0.014</u>

(5) Cold CO Standard. The following standards represent the 50,000 mile cold temperature exhaust carbon monoxide emission levels from new 2001 and subsequent model-year passenger cars, light-duty trucks, and medium-duty vehicles:

**2001 AND SUBSEQUENT MODEL-YEAR COLD TEMPERATURE  
CARBON MONOXIDE EXHAUST EMISSIONS STANDARDS FOR PASSENGER  
CARS, LIGHT-DUTY TRUCKS, AND MEDIUM-DUTY VEHICLES**  
(grams per mile)

<u>Vehicle Type</u>	<u>Carbon Monoxide</u>
<u>All PCs, LDTs 0-3750 lbs. LVW;</u>	<u>10.0</u>
<u>LDTs, 3751 lbs. LVW - 8500 lbs. GVW;</u> <u>LEV I and Tier 1 MDVs 3751 lbs. - 8500 lbs. LVW</u>	<u>12.5</u>

These standards are applicable to vehicles tested at a nominal temperature of 20°F (-7°C) in accordance with 40 CFR Part 86 Subpart C, as amended by the “California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles” incorporated by reference in section 1961(d). Natural gas, diesel-fueled and zero-emission vehicles are exempt from these standards.

(6) Highway NOx Standard. The maximum emissions of oxides of nitrogen measured on the federal Highway Fuel Economy Test (HWFET; 40 CFR 600 Subpart B, which is incorporated herein by reference) shall not be greater than 1.33 times the applicable PC and LDT standards or 2.0 times the applicable MDV standards set forth in section 1961(a)(1). Both the

projected emissions and the HWFET standard shall be rounded in accordance with ASTM E29-67 to the nearest 0.1 g/mi (or 0.01 g/mi for vehicles certified to the 0.05 or 0.02 g/mi NOx standards) before being compared.

(7) Supplemental Federal Test Procedure (SFTP) Off-Cycle Emission Standards. The SFTP exhaust emission levels from new 2004 and subsequent model LEVs, ULEVs, and SULEVs shall not exceed the standards set forth in section 1960.1(r).

(8) Requirements for Vehicles Certified to the Optional 150,000 Mile Standards.

(a) Requirement to Receive Additional Fleet Average NMOG Credit. A manufacturer that certifies to the 150,000 mile standards in section 1961(a) shall be eligible to receive additional NMOG fleet average credit as set forth in 1961(b)(1) or additional vehicle equivalent credits as set forth in 1961(b)(2) provided that the manufacturer extends the warranty on high cost parts to 8 years or 100,000 miles, whichever occurs first, and agrees to extend the limit on high mileage in-use testing to 105,000 miles.

(b) Requirement to Receive a Partial ZEV Allowance. A manufacturer that certifies to the 150,000 mile SULEV standards may also be eligible to receive a partial ZEV allocation according to the criteria set forth in section D.2 of the "California Zero-Emission and Hybrid Electric Vehicle Standards and Test Procedures for 2003 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles."

(c) TLEV, Option 1 Requirement. For vehicles certifying to the TLEVs, Option 1 standard, the 50,000 and 150,000 mile standards are the same. A manufacturer that certifies to this standard must extend the warranty on high cost parts to 8 years or 100,000 miles, whichever occurs first, and agree to extend the limit on high mileage in-use testing to 105,000 miles. The fleet average NMOG value for these vehicles shall be 0.125 g/mi NMOG.

(9) Optional LEV II NOx Standard. A manufacturer may certify up to 4% of its light-duty truck fleet from 3751 lbs. LVW - 8500 lbs. GVW with a maximum base payload of 2500 lbs. or more to the LEV, option 1, standard set forth in 1961(a)(1) based on projected sales of trucks in the LDT2 category. Passenger cars and light-duty trucks 0-3750 lbs. LVW are not eligible for this option.

(10) Intermediate In-Use Compliance Standards. Prior to the 2006 model year, the following intermediate in-use compliance standards shall apply for only the first two model years after introduction of a test group to a new standard.

Emission Category	Durability Vehicle Basis	LEV II PCs and LDTs		LEV II MDVs
		NMOG	NOx	8500 - 10,000 lbs. GVW
				NOx

LEV/ULEV	50,000	n/a	0.07	n/a
	120,000	n/a	0.10	0.3
SULEV	120,000	0.015	0.025	0.15

(11) NMOG Credit for Vehicles with Zero-Evaporative Emissions. In determining compliance of a vehicle with the applicable exhaust NMOG standard, an 0.006 g/mi NMOG value shall be subtracted from the reactivity-adjusted NMOG exhaust emission results for any vehicle that has been certified to the “zero” evaporative emission standard set forth in title 13, CCR, section 1976(b)(1)(E). This credit shall not apply to a SULEV that generates a partial ZEV allowance.

(12) NMOG Credit for Direct Ozone Reduction Technology. A manufacturer that certifies vehicles equipped with direct ozone reduction technologies shall be eligible to receive NMOG credits that can be applied to the NMOG exhaust emissions when determining compliance with the standard. In order to receive credit, the manufacturer must submit the following information for each vehicle model, including, but not limited to:

- (a) a demonstration of the airflow rate through the direct ozone reduction device and the ozone-reducing efficiency of the device over the range of speeds encountered in the SFTP test cycle;
- (b) an evaluation of the durability of the device for the full useful life of the vehicle; and
- (c) a description of the on-board diagnostic strategy for monitoring the performance of the device in-use.

Using the above information, the Executive Officer shall determine the value of the NMOG credit based on the calculated change in the one-hour peak ozone level using an approved airshed model.

(b) Emission Standards Phase-In Requirements for Manufacturers.

(1) Fleet Average NMOG Requirements for Passenger Cars and Light-Duty Trucks.

(A) The fleet average non-methane organic gas exhaust mass emission values from the passenger cars and light-duty trucks certified to the standards in sections 1960.1(g)(1) and 1961(a)(1) that are produced and delivered for sale in California by a manufacturer each model year shall not exceed:

<b><u>FLEET AVERAGE NON-METHANE ORGANIC GAS EXHAUST MASS EMISSION REQUIREMENTS FOR LIGHT-DUTY VEHICLE WEIGHT CLASSES</u></b> (50,000 mile Durability Vehicle Basis)	
<u>Model Year</u>	<u>Fleet Average NMOG (grams per mile)</u>

	<u>All PCs; LDTs 0-3750 lbs. LVW</u>	<u>LDTs 3751 lbs. LVW - 8500 lbs. GVW</u>
<u>2001</u>	<u>0.070</u>	<u>0.098</u>
<u>2002</u>	<u>0.068</u>	<u>0.095</u>
<u>2003</u>	<u>0.062</u>	<u>0.093</u>
<u>2004</u>	<u>0.053</u>	<u>0.085</u>
<u>2005</u>	<u>0.049</u>	<u>0.076</u>
<u>2006</u>	<u>0.046</u>	<u>0.062</u>
<u>2007</u>	<u>0.043</u>	<u>0.055</u>
<u>2008</u>	<u>0.040</u>	<u>0.050</u>
<u>2009</u>	<u>0.038</u>	<u>0.047</u>
<u>2010+</u>	<u>0.035</u>	<u>0.043</u>

(B) Calculation of Fleet Average NMOG Value.

1. Each manufacturer's fleet average NMOG value for the total number of PCs and LDTs produced and delivered for sale in California shall be calculated as follows:

$$\frac{\sum [\text{Number of vehicles in a test group} \times \text{applicable emission standard}] + \sum [\text{Number of hybrid electric vehicles in a test group} \times \text{HEV NMOG factor}]}{\text{Total Number of Vehicles Produced, Including ZEVs and HEVs}}$$

Total Number of Vehicles Produced, Including ZEVs and HEVs

The applicable emission standards to be used in the above equation are as follows:

<u>Model Year</u>	<u>Emission Category</u>	<u>Emission Standard Value</u>	
		<u>All PCs; LDTs 0-3750 lbs. LVW</u>	<u>LDTs 3751-5750 lbs. LVW</u>
<u>2001 and subsequent (§1960.5 "AB 965" vehicles only)</u>	<u>Tier 1</u>	<u>0.25</u>	<u>0.31</u>
<u>2001 - 2003 (§1960.1(f)(2))</u>	<u>Tier 1</u>	<u>0.25</u>	<u>0.31</u>
<u>2001 - 2006 model year vehicles certified to the "LEV I" standards in §1960.1(g)(1)</u>	<u>TLEVs</u>	<u>0.125</u>	<u>0.160</u>
	<u>LEVs</u>	<u>0.075</u>	<u>0.100</u>

	<u>ULEVs</u>	<u>0.040</u>	<u>0.050</u>
<b>Model Year</b>	<b>Emission Category</b>	<b>All PCs; LDTs 0-3750 lbs. LVW</b>	<b>LDTs 3751 lbs. LVW - 8500 lbs. GVW</b>
<u>2004 and subsequent model year vehicles certified to the "LEV II" standards in §1961(a)(1)</u>	<u>TLEVs</u>	<u>0.125</u>	<u>0.125</u>
	<u>LEVs</u>	<u>0.075</u>	<u>0.075</u>
	<u>ULEVs</u>	<u>0.040</u>	<u>0.040</u>
	<u>SULEVs</u>	<u>0.01</u>	<u>0.01</u>
<u>2004 and subsequent model year vehicles certified to the optional 150,000 mile "LEV II" standards for PCs and LDTs in 1961(a)(1)</u>	<u>TLEVs</u>	<u>0.11</u>	<u>0.11</u>
	<u>LEVs</u>	<u>0.06</u>	<u>0.06</u>
	<u>ULEVs</u>	<u>0.03</u>	<u>0.03</u>
	<u>SULEVs</u>	<u>0.0085</u>	<u>0.0085</u>

2. LEV II Phase-In Requirement. Beginning in the 2004 model year, a manufacturer, except a small volume manufacturer, shall certify a percentage of its PC and LDT fleet to the LEV II standards in section 1961(a) according to the following phase in schedule:

<u>Model Year</u>	<u>PC/LDT1 (%)</u>	<u>LDT2 (%)</u>
<u>2004</u>	<u>25</u>	<u>25</u>
<u>2005</u>	<u>50</u>	<u>50</u>
<u>2006</u>	<u>75</u>	<u>75</u>
<u>2007</u>	<u>100</u>	<u>100</u>

A manufacturer may use an alternative phase-in schedule to comply with these phase-in requirements as long as equivalent NOx emission reductions are achieved by the 2007 model year from each of the two categories -- PC/LDT1 and LDT2. Model year emission reductions shall be calculated by multiplying the percent of either PC/LDT1 or LDT2 vehicles meeting the LEV II standards in a given model year (based on a manufacturer's projected sales volume of vehicles in each category) by 4 for the 2004 model year, 3 for the 2005 model year, 2 for the 2006 model year and 1 for the 2007 model year. The yearly results for PCs/LDT1s shall be summed together to determine a separate cumulative total for PCs/LDT1s and the yearly results for LDT2s shall be summed together to determine a cumulative total for LDT2s. The cumulative total for each category must be equal to or exceed 500 to be considered equivalent. Vehicles introduced prior to the 2004 model year shall not be considered in this equation.

3. HEV NMOG Factor. The HEV NMOG factor for light-duty vehicles is calculated as follows:

$$\text{LEV HEV Contribution Factor} = 0.075 - [(\text{Zero-emission VMT Factor}) \times 0.035]$$

$$\text{ULEV HEV Contribution Factor} = 0.040 - [(\text{Zero-emission VMT Factor}) \times 0.030]$$

where Zero-emission VMT Factor for HEVs is determined in accordance with section 1962.

(C) Requirements for Small Volume Manufacturers.

(1) In 2001 through 2003 model years, a small volume manufacturer shall not exceed a fleet average NMOG value of 0.075 g/mi for PCs and LDTs from 0-3750 lbs. LVW or 0.100 g/mi for LDTs from 3751-5750 lbs. LVW calculated in accordance with section 1961(b)(1)(B). In 2004 and subsequent model years, a small volume manufacturer shall not exceed a fleet average NMOG value of 0.075 for PCs and LDTs from 0-3750 lbs. LVW or 0.075 for LDTs from 3751 lbs. LVW - 8500 lbs. GVW calculated in accordance with section 1961(b)(1)(B).

(2) If a manufacturer's average California sales exceeds 4500 units of new PCs, LDTs, MDVs and heavy duty engines based on the average number of vehicles sold for the three previous consecutive model years, the manufacturer shall no longer be treated as a small volume manufacturer and shall comply with the fleet average requirements applicable to larger manufacturers as specified in section 1961(b)(1) beginning with the fourth model year after the last of the three consecutive model years.

(3) If a manufacturer's average California sales falls below 4500 units of new PCs, LDTs, MDVs and heavy duty engines based on the average number of vehicles sold for the three previous consecutive model years, the manufacturer shall be treated as a small volume manufacturer and shall be subject to the requirements for small volume manufacturers beginning with the next model year.

(D) ZEVs classified as LDTs (>3750 lbs. LVW) that have been counted toward the ZEV requirement for PCs and LDTs (0-3750 lbs. LVW) as specified in section 1962 shall be included in the calculation of a fleet average NMOG value.

(2) Medium-Duty Vehicle Phase-In Requirements.

(A) A manufacturer of MDVs shall certify an equivalent percentage of its MDV fleet according to the following phase-in schedule:

<u>Model Year</u>	<u>Vehicles Certified to §1960.1(h)(1), (h)(2), and §1961(a)(1) (%)</u>		<u>Vehicles Certified to §1956.8(g) or (h) (%)</u>		
	<u>LEV</u>	<u>ULEV</u>	<u>Tier 1</u>	<u>LEV</u>	<u>ULEV</u>
<u>2001</u>	<u>80</u>	<u>20</u>	<u>100</u>	<u>0</u>	<u>0</u>
<u>2002</u>	<u>70</u>	<u>30</u>	<u>0</u>	<u>100</u>	<u>0</u>
<u>2003</u>	<u>60</u>	<u>40</u>	<u>0</u>	<u>100</u>	<u>0</u>
<u>2004 ±</u>	<u>40</u>	<u>60</u>	<u>0</u>	<u>0</u>	<u>100</u>

(B) Beginning with the 2004 model year, a manufacturer shall phase-in at least one test group per model year to the MDV LEV II standards.

(C) For the 2001 and subsequent model years, each manufacturer's MDV fleet shall be defined as the total number of California-certified MDVs produced and delivered for sale in California. The percentages shall be applied to the manufacturers' total production of California-certified medium-duty vehicles delivered for sale in California.

(D) Requirements for Small Volume Manufacturers. In 2001 and subsequent model years, a small volume manufacturer shall certify, produce, and deliver for sale in California LEVs in a quantity equivalent to 100% of its MDV fleet.

(c) Calculation of NMOG Credits/Debits

(1) Calculation of NMOG Credits for Passenger Cars and Light-Duty Trucks.

(A) In 2001 and subsequent model years, a manufacturer that achieves fleet average NMOG values lower than the fleet average NMOG requirement for the corresponding model year shall receive credits in units of g/mi NMOG determined as:

$$\frac{[(\text{Fleet Average NMOG Requirement}) - (\text{Manufacturer's Fleet Average NMOG Value})]}{(\text{Total No. of Vehicles Produced and Delivered for Sale in California, Including ZEVs and HEVs})}$$

A manufacturer with 2001 and subsequent model year fleet average NMOG values greater than the fleet average requirement for the corresponding model year shall receive debits in units of g/mi NMOG equal to the amount of negative credits determined by the aforementioned equation. For the 2001 and subsequent model years, the total g/mi NMOG credits or debits earned for PCs and LDTs 0-3750 lbs. LVW, for LDTs 3751-5750 lbs. LVW and for LDTs 3751 lbs. LVW - 8500 lbs. GVW shall be summed together. The resulting amount shall constitute the g/mi NMOG credits or debits accrued by the manufacturer for the model year.

(B) For 2004 through 2006 model years, a manufacturer shall equalize emission debits within three model years and prior to the end of the 2007 model year by earning g/mi NMOG emission credits in an amount equal to the g/mi NMOG debits, or by submitting a commensurate amount of g/mi NMOG credits to the Executive Officer that were earned previously or acquired from another manufacturer. For 2007 and subsequent model years, manufacturers shall equalize emission debits by the end of the following model year.

(2) Calculation of Vehicle Equivalent NMOG Credits for Medium-Duty Vehicles.

(A) In 2001 and subsequent model years, a manufacturer that produces and delivers for sale in California MDVs in excess of the equivalent requirements for LEVs, ULEVs and/or

SULEVs certified to the exhaust emission standards set forth in section 1961(a)(1) or to the exhaust emission standards set forth in Title 13, CCR, Section 1956.8(h) shall receive “Vehicle-Equivalent Credits” (or “VECs”) calculated in accordance with the following equation, where the term “produced” means produced and delivered for sale in California:

$$\frac{\{[(\text{No. of LEVs Produced excluding HEVs}) + (\text{No. of LEV HEVs} \times \text{HEV VEC factor for LEVs})] + (1.20 \times \text{No. of LEVs certified to the 150,000 mile standards})\} - (\text{Equivalent No. of LEVs Required to be Produced})\} +$$

$$\frac{\{(1.4) \times (\text{No. of ULEVs Produced excluding HEVs}) + (\text{No. of ULEV HEVs} \times \text{HEV VEC factor for ULEVs})\} + (1.50 \times \text{No. of ULEVs certified to the 150,000 mile standards})\} - [(1.4) \times (\text{Equivalent No. of ULEVs Required to be Produced})\} +$$

$$\frac{\{(1.7) \times (\text{No. of SULEVs Produced excluding HEVs}) + (\text{No. of SULEV HEVs} \times \text{HEV VEC factor for SULEVs})\} + (1.75 \times \text{No. of SULEVs certified to the 150,000 mile standards})\} - [(1.7) \times (\text{Equivalent No. of SULEVs Required to be Produced})\} +$$

$$[(2.0) \times (\text{No. of ZEVs Certified and Produced as MDVs})].$$

(B) MDV HEV VEC factor. The MDV HEV VEC factor is calculated as follows:

$$\frac{1 + [(\text{LEV standard} - \text{ULEV standard}) \times (\text{Zero-emission VMT Factor}) \div \text{LEV standard}] \text{ for LEVs;}}{1 + [(\text{ULEV standard} - \text{SULEV standard}) \times (\text{Zero-emission VMT Factor}) \div \text{ULEV standard}] \text{ for ULEVs;}}$$

$$\frac{1 + [(\text{SULEV standard} - \text{ZEV standard}) \times (\text{Zero-emission VMT Factor}) \div \text{SULEV standard}] \text{ for SULEVs;}}{\text{where “Zero-emission VMT Factor” for an HEV is determined in accordance with section 1962.}}$$

(C) A manufacturer that fails to produce and deliver for sale in California the equivalent quantity of MDVs certified to LEV, ULEV and/or SULEV exhaust emission standards, shall receive “Vehicle-Equivalent Debits” (or “VEDs”) equal to the amount of negative VECs determined by the equation in section 1961(c)(2)(A).

(D) Only ZEVs certified as MDVs and not used to meet the ZEV requirement shall be included in the calculation of VECs.

(3) Procedure for Offsetting Debits.

(A) For 2001 through 2003 and for 2007 and subsequent model years, manufacturers shall equalize emission debits by the end of the following model year. If emission debits are not equalized within the specified time period, the manufacturer shall be subject to the Health and

Safety Code section 43211 civil penalty applicable to a manufacturer which sells a new motor vehicle that does not meet the applicable emission standards adopted by the state board. The cause of action shall be deemed to accrue when the emission debits are not equalized by the end of the specified time period. For the purposes of Health and Safety Code section 43211, the number of passenger cars and light-duty trucks not meeting the state board's emission standards shall be determined by dividing the total amount of g/mi NMOG emission debits for the model year by the g/mi NMOG fleet average requirement for PCs and LDTs 0-3750 lbs. LVW applicable for the model year in which the debits were first incurred and the number of medium-duty vehicles not meeting the state board's emission standards shall be equal to the amount of VEDs incurred.

(B) The emission credits earned in any given model year shall retain full value through the subsequent model year. The value of any credits not used to equalize the previous model-year's debit shall be discounted by 50% at the beginning of second model year after being earned, shall be discounted to 25% of its original value if not used by the beginning of the third model year after being earned, and will have no value if not used by the beginning of the fourth model year after being earned.

(d) Test Procedures. The certification requirements and test procedures for determining compliance with the emission standards in this section are set forth in the California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, adopted on [insert date of adoption], which is incorporated herein by reference. In the case of hybrid electric vehicles, the certification requirements and test procedures for determining compliance with the emission standards in this section are set forth in the "California Zero-Emission and Hybrid Electric Vehicle Exhaust Emission Standards and Test procedures for 2003 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles," incorporated by reference in section 1962(e).

(e) Abbreviations. The following abbreviations are used in this section 1961:

"ALVW" means adjusted loaded vehicle weight.

"ASTM" means American Society of Testing and Materials.

"CO" means carbon monoxide.

"FTP" means Federal Test Procedure.

"g/mi" means grams per mile.

"GVW" means gross vehicle weight.

"GVWR" means gross vehicle weight rating.

"HEV" means hybrid-electric vehicle.

"LDT" means light-duty truck.

"LDT1" means a light-truck with a loaded vehicle weight of 0-3750 pounds.

"LEV" means low-emission vehicle.

"LPG" means liquefied petroleum gas.

"LVW" means loaded vehicle weight.

"MDV" means medium-duty vehicle.

“mg/mi” means milligrams per mile.

“Non-Methane Organic Gases” or “NMOG” means the total mass of oxygenated and non-oxygenated hydrocarbon emissions.

“NO<sub>x</sub>” means oxides of nitrogen.

“PC” means passenger car.

“SULEV” means super ultra-low-emission vehicle.

“TLEV” means transitional low-emission vehicle.

“ULEV” means ultra-low-emission vehicle.

“VEC” means vehicle-equivalent credits.

“VED” means vehicle-equivalent debits.

“VMT” means vehicle miles traveled.

Note: Authority cited: Sections 39600, 39601, 43013, 43018, 43101, 43104 and 43105, Health and Safety Code. Reference: Sections 39002, 39003, 39667, 43000, 43009.5, 43013, 43018, 43100, 43101, 43101.5, 43102, 43104, 43105, 43106, 43107, 43204, and 43205.5, Health and Safety Code.

### ***Summary Explanation of Proposed Modifications***

*This new section contains the LEV II standards for 2004 and subsequent model-year vehicles. Its relationship to section 1960.1 is described in the commentary following section 1960.1.*

*Proposed section 1961 reflects a significant change in the way that the California emission standards and associated requirements are presented. Historically, the California exhaust emission standards have been laid out in standards tables with footnotes providing explanations, variations, or additional requirements. Over the years, the footnotes have become more and more extensive, until major elements such as the ZEV requirements were found entirely in footnotes. Staff has reorganized the standards provisions to eliminate or greatly reduce the use of footnotes and to more clearly lay out the relationship between the various low-emission vehicle standards and the fleet average NMOG requirements. The intent is to craft a regulation that, although complex, is more “user-friendly” for the interested public.*

*The LEV II modifications being proposed in this new section are discussed more fully in the summary explanation of proposed modifications contained in Appendix B-1, and in Section II.B. of the Staff Report.*

4. Add new title 13, CCR section 1962 to read as follows:

**§1962. Zero-Emission Vehicle Standards for 2003 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.**

(a) ZEV Emission Standard. The Executive Officer shall certify new 2003 and subsequent model passenger cars, light-duty trucks and medium-duty vehicles as ZEVs if the vehicles produce zero exhaust emissions of any criteria pollutant (or precursor pollutant) under any and all possible operational modes and conditions. Incorporation of a fuel-fired heater shall not preclude a vehicle from being certified as a ZEV provided: (1) the fuel-fired heater cannot be operated at ambient temperatures above 40°F, (2) the heater is demonstrated to have zero fuel evaporative emissions under any and all possible operational modes and conditions, and (3) the emissions of any pollutant from the fuel-fired heater when operated at an ambient temperature between 68°F and 86°F do not exceed the emission standard for that pollutant for a ULEV under section 1961(a)(1).

A vehicle that would meet the emissions standards for a ZEV except that it uses a fuel-fired heater that can be operated at ambient temperatures above 40°F, that cannot be demonstrated to have zero fuel evaporative emissions under any and all possible operation modes and conditions, or that has emissions of any pollutant exceeding the emission standard for that pollutant for a ULEV under section 1961(a)(1), shall be certified based on the emission level of the fuel-fired heater.

(b) Percentage ZEV Requirements. The ZEV requirement for each manufacturer in 2003 and subsequent model years is that at least 10% of the PCs and LDT1s produced by the manufacturer and delivered for sale in California must be ZEVs, subject to the following conditions:

(1) Basic Requirements for Large, Intermediate, and Small Volume Manufacturers.

(A) Large Volume Manufacturers. In 2003 and subsequent model years, a large-volume manufacturer must meet at least 40% of its ZEV requirement with ZEVs, full ZEV allowance vehicles, or ZEV credits generated by such vehicles. The remainder of the large-volume manufacturer's ZEV requirement may be met using partial ZEV allowance vehicles or credits generated by such vehicles.

(B) Intermediate Volume Manufacturers. In 2003 and subsequent model years, an intermediate volume manufacturer may meet its ZEV requirement with up to 100 percent partial ZEV allowance vehicles.

(C) Small Volume Manufacturers. A small volume manufacturer is not required to meet the percentage ZEV requirements. However, a small volume manufacturer may earn and

market credits for the ZEVs or ZEV allowance vehicles it produces and delivers for sale in California.

(2) *Counting ZEVs and ZEV Allowance Vehicles in Fleet Average NMOG Calculations.* Vehicles certified as ZEVs and as full ZEV allowance vehicles shall be counted as ZEVs for the purpose of calculating a manufacturer's fleet average NMOG value and NMOG credits under sections 1960.1(g)(2) and 1961(b) and (c). Partial ZEV allowance vehicles shall be counted as SULEVs certified to the 150,000 mile standards for the purpose of calculating a manufacturer's fleet average NMOG value and NMOG credits under sections 1960.1(g)(2) and 1961(b) and (c).

(3) *Implementation Prior to 2003 Model Year.* Prior to the 2003 model year, a manufacturer that voluntarily produces vehicles meeting the ZEV emission standards applicable to 2003 and subsequent model year vehicles may certify the vehicles to those standards and requirements for purposes of calculating fleet average NMOG exhaust emission values and NMOG credits under sections 1960.1(g)(2) and 1961(b) and (c), and for calculating ZEV credits as set forth in section 1962(d).

(4) *Changes in Small and Intermediate Volume Manufacturer Status.* In 2003 and subsequent model years, if a small volume manufacturer's average California production volume exceeds 4,500 units of new PCs, LDTs, and MDVs based on the average number of vehicles produced and delivered for sale for the three previous consecutive model years, or if an intermediate volume manufacturer's average California production volume exceeds 35,000 units of new PCs, LDTs, and MDVs based on the average number of vehicles produced and delivered for sale for the three previous consecutive model years, the manufacturer shall no longer be treated as a small volume or intermediate manufacturer, as applicable, and shall comply with the ZEV requirements for intermediate or large volume manufacturers, as applicable, beginning with the fourth model year after the last of the three consecutive model years. If a manufacturer's average California production volume falls below 4,500 or 35,000 units of new PCs, LDTs, and MDVs, as applicable, based on the average number of vehicles produced and delivered for sale for the three previous consecutive model years, the manufacturer shall be treated as a small or intermediate volume manufacturer, as applicable, and shall be subject to the requirements for a small or intermediate volume manufacturer beginning with the next model year.

(c) *Partial and Full ZEV Allowance Vehicles.* This section 1962(c) sets forth the criteria for identifying vehicles delivered for sale in California as partial or full ZEV allowance vehicles. A partial ZEV allowance vehicle is a vehicle that is delivered for sale in California and that qualifies for a partial ZEV allowance of at least 0.2 but less than 1.0. A full ZEV allowance vehicle is a vehicle that is delivered for sale in California and that qualifies for a ZEV allowance of 1.0.

(1) *Baseline Partial ZEV Allowance.* In order for a vehicle to be eligible to receive a partial or full ZEV allowance, the manufacturer must demonstrate compliance with all of the following requirements. A qualifying vehicle will receive a baseline partial ZEV allowance of 0.2.

(A) Certify the vehicle to the SULEV exhaust emission standard in section 1961(a)(1) at 150,000 miles for PCs and LDTs;

(B) Certify the vehicle to the evaporative emission standards in section 1976(b)(1)(E) (“zero” evaporative emissions standards);

(C) Certify that the vehicle will meet the applicable on-board diagnostic requirements in section 1968.1 at 150,000 miles;

(D) Extend the performance and defects warranty period set forth in sections 2037(b)(2), and 2038(b)(2) to 15 years or 150,000 miles, whichever occurs first.

(2) *Zero-emission VMT Partial ZEV Allowance.*

(A) A vehicle that meets the requirements of section 1962(c)(1) and has zero-emission vehicle miles traveled (“VMT”) capability will generate an additional ZEV allowance, not to exceed 0.6, according to the following equation:

$$\text{Zero-emission VMT Partial ZEV Allowance} = 0.6 \times \text{Zero-Emission VMT Factor}$$

where zero-emission VMT factor is the ratio of the zero-emission miles the vehicle travels to the total miles traveled per trip.

(B) The zero-emission VMT factor in the above equation is to be calculated as follows, with the urban all-electric range determined in accordance with section E.(3)(a) of the “California Zero-Emission and Hybrid Electric Vehicle Exhaust Emission Standards and Test Procedures for 2003 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles,” incorporated by reference in section 1962(e):

<b>Urban All-Electric Range</b>	<b>Zero-emission VMT Factors:</b>
< 20 miles	0.0
≤ 20 miles to < 100 miles	$(30 + [0.5 \times \text{Urban AER}])/80$
≥ 100 miles	1.0

(C) As an alternative to determining the zero-emission VMT factor in accordance with the preceding section 1962(c)(2)(B), a manufacturer may submit for Executive Officer approval an alternative procedure for determining the zero-emission VMT potential of the vehicle as a

percent of total VMT, along with an engineering evaluation that adequately substantiates the zero-emission VMT determination. For example, an alternative procedure may provide that a vehicle with zero-emissions of one regulated pollutant (e.g. NOx) and not another (e.g. NMOG) will qualify for a zero-emission VMT factor of 0.5. Upon approval of the alternative procedure, the Executive Officer shall assign a zero-emission VMT factor not to exceed 1.0.

(D) The Executive Officer shall approve an additional 0.1 zero-emission VMT ZEV allowance for an HEV with an all-electric range greater than 20 miles if the manufacturer demonstrates to the reasonable satisfaction of the Executive Officer that the HEV is equipped with software and/or other strategies that would promote maximum use of off-vehicle charging, and that the strategies employed are reasonably reliable and tamper-proof. In no event, however, may the total zero-emission VMT ZEV allowance for an HEV under section 1962(c)(2) exceed 0.6.

(3) *Partial ZEV Allowance for Advanced ZEV Componentry.* A vehicle that does not qualify for any zero-emission VMT partial ZEV allowance under section 1962(c)(2) shall qualify for an advanced componentry partial ZEV allowance of 0.1, if the manufacturer demonstrates to the reasonable satisfaction of the Executive Officer that the vehicle is equipped with advanced ZEV componentry such as an advanced battery integral to the operation of the vehicle power-train or an electric power-train.

(4) *Partial ZEV Allowance for Fuel-Cycle Emissions.* A vehicle that uses fuel(s) with very low fuel-cycle emissions shall receive a partial ZEV allowance not to exceed 0.2. In order to receive the fuel-cycle partial ZEV allowance, a manufacturer must demonstrate to the Executive Officer, using peer-reviewed studies or other relevant information, that NMOG emissions associated with the fuel(s) used by the vehicle (on a grams/mile basis) are lower than or equal to 0.01 grams/mile. Fuel-cycle emissions must be calculated based on near-term production methods and infrastructure assumptions, and the uncertainty in the results must be quantified. The fuel-cycle partial ZEV allowance is calculated according to the following formula:

Partial ZEV Fuel Cycle Allowance = 0.2 x (percent of VMT using fuel(s) meeting the requirements of the preceding paragraph)

A manufacturer's demonstration to the Executive Officer that a vehicle qualifies for a fuel-cycle partial ZEV allowance shall include test results and/or empirical data supporting the estimate of the relative proportion of VMT while operating on fuel(s) with very low fuel-cycle emissions.

(5) *Calculation of Combined ZEV Allowance for a Vehicle.* The combined ZEV allowance for a qualifying vehicle is the sum of:

(A) The baseline ZEV allowance of 0.2 for vehicles meeting the criteria in section 1962(c)(1):

(B) The zero-emission VMT ZEV allowance, if any, determined in accordance with section 1962(c)(2), not to exceed 0.6;

(C) The advanced ZEV componentry ZEV allowance, if any, determined in accordance with section 1962(c)(3), not to exceed 0.1; and

(D) The fuel-cycle emissions ZEV allowance, if any, determined in accordance with section 1962(c)(4), not to exceed 0.2.

(d) *Generation and Use of ZEV Credits.* A manufacturer that produces and delivers for sale in California ZEVs, full ZEV allowance vehicles, or partial ZEV allowance vehicles exceeding the manufacturer's ZEV requirement in 2003 or any subsequent model year set forth in section 1962(b) shall earn ZEV credits or partial ZEV allowance credits in accordance with this section 1962(d).

(1) *Multiple ZEV Credits for 1996-1998 Model Year ZEVs.*

(A) *1996-1998 Model Year ZEV Credit Multiplier Based on Vehicle Range.* 1996 - 1998 model year ZEVs shall qualify for additional ZEV credits based on vehicle range as follows:

<u>Number of ZEVs</u>	<u>Vehicle Range (miles)</u>	
	<u>Model Years 1996 and 1997</u>	<u>Model Year 1998</u>
<u>2</u>	<u>any</u>	<u>≥ 100</u>
<u>3</u>	<u>≥70</u>	<u>≥ 130</u>

Range shall be determined in accordance with section 9.f.(2)(a) of the "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles," incorporated by reference in section 1960.1(k).

(B) *1996-1998 Model Year ZEV Credits Based on Specific Energy of Battery.* 1996 - 1998 model year ZEVs shall qualify for additional ZEV credits as follows:

<u>Number of ZEVs</u>	<u>Specific Energy of Battery (w-hr/kg)</u>
<u>2</u>	<u>any</u>
<u>3</u>	<u>≥40</u>

(C) For purposes of counting ZEV credits, a 1996-1998 ZEV may be counted according to section 1962(d)(1)(A) or section 1962(d)(1)(B), but not both. For purposes of calculating a manufacturer’s fleet average NMOG value under section 1960.1(g)(2), each extended electric range ZEV shall be counted as one vehicle.

(2) 1999-2007 Model Year ZEV Multiplier Calculation for Extended Electric Range Vehicles.

(A) Each ZEV and full ZEV allowance vehicle that is produced and delivered for sale in California in the 1999 to 2007 model years and that has an extended electric range shall earn credits that may be counted as follows:

<u>All-electric range</u>	<u>MY 1999-2000</u>	<u>MY 2001 -2002</u>	<u>MY 2003-2005</u>	<u>MY 2006-2007</u>
<u>100-175</u>	<u>6-10</u>	<u>4-6</u>	<u>2-4</u>	<u>1-2</u>

ZEV credits under the above schedule will be determined by linear interpolation between the values shown in the above schedule. Range shall be determined in accordance with Section E.3.(2)(a) of the “California Zero-Emission and Hybrid Electric Vehicle Exhaust Emission Standards and Test Procedures for 2003 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles,” incorporated by reference in section 1962(e). ZEVs that have a refueling time of less than 10 minutes and a range in excess of 100 miles shall be counted as having unlimited all-electric range, and shall consequently qualify to receive the maximum allowable ZEV multiplier for a specific model year.

(B) For purposes of calculating a manufacturer’s fleet average NMOG value under sections 1960.1(g)(2) and 1961(b) and (c), each extended electric range ZEV shall be counted as one vehicle.

(3) ZEV Credit Calculations.

(A) Credits from ZEVs and Full ZEV Allowance Vehicles. The amount of ZEV credits earned by a manufacturer in a given year shall be equal to the number of ZEVs produced and delivered for sale in California that the manufacturer applies towards meeting the ZEV requirements for the model year (at least 40% of the ZEV requirement for large volume

manufacturers), and augmented by any multiple ZEV credits under section 1962(d)(1) subtracted from [the number of ZEVs plus the number of full ZEV allowance vehicles produced and delivered for sale in California in the model year], multiplied by ZEV multiplier wherever applicable. The resulting number of ZEV credits shall be multiplied by the NMOG fleet average requirement for PCs and LDT1s for that model year and expressed in units of g/mi NMOG.

(B) *Credits from Partial ZEV Allowance Vehicles.* The amount of partial ZEV allowance credits earned by a manufacturer in a given year shall be equal to the total number of ZEV allowances from partial ZEV allowance vehicles produced and delivered for sale in California that the manufacturer applies towards meeting its ZEV requirement for the model year (a number not to exceed 60% of the ZEV requirement for large volume manufacturers) subtracted from the total number of ZEV allowances from partial ZEV allowance vehicles produced and delivered for sale in California in the model year. The resulting partial ZEV allowance credits value shall be multiplied by the NMOG fleet average requirement for PCs and LDT1s for that model year and expressed in units of g/mi NMOG.

(C) The number of credits from a manufacturer's ZEVs and full ZEV allowance vehicles shall be maintained separately from the number of credits from the manufacturer's partial ZEV allowance vehicles.

(4) *ZEV Credits for MDVs and LDTs other than LDT1s.* ZEVs classified as MDVs or as LDTs other than LDT1s may be counted toward the ZEV requirement for PCs and LDT1s, and included in the calculation of ZEV credits as specified in this section 1962(d) if the manufacturer so designates.

(5) *Submittal of ZEV Credits.* A manufacturer may meet the ZEV requirements in any given model year by submitting to the Executive Officer a commensurate amount of ZEV credits and credits from partial ZEV allowance vehicles, consistent with section 1962(b). These credits may be earned previously by the manufacturer or acquired from another manufacturer. The amount of ZEV credits and credits from partial ZEV allowance credit vehicles required to be submitted shall be calculated according to the criteria set forth in this section 1962(d).

(6) *Requirement to Make Up a ZEV Deficit.* A manufacturer that produces and delivers for sale in California fewer ZEVs than required in a given model year shall make up the deficit by the end of the next model year by submitting to the Executive Officer a commensurate amount of ZEV credits. The amount of ZEV credits required to be submitted shall be calculated by (A) adding the number of ZEVs produced and delivered for sale in California by the manufacturer for the model year with the number the manufacturer's ZEV allowance vehicles and partial ZEV allowance credits for the model year (not to exceed 60% of a large volume manufacturer's ZEV requirement), (B) subtracting that total from the number of ZEVs required to be produced and delivered for sale in California by the manufacturer for the model year, and (C) multiplying the resulting value by the fleet average requirements for PCs and LDT1s for the model year in which the deficit is incurred.

(7) *Penalty for Failure to Meet ZEV Requirements.* Any manufacturer that fails to produce and deliver for sale in California the required number of ZEVs or submit an appropriate amount of ZEV credits and does not make up ZEV deficits within the specified time period shall be subject to the Health and Safety Code §43211 civil penalty applicable to a manufacturer that sells a new motor vehicle that does not meet the applicable emission standards adopted by the state board. The cause of action shall be deemed to accrue when the ZEV deficits are not balanced by the end of the specified time period. For the purposes of Health and Safety Code section 43211, the number of vehicles not meeting the state board's standards shall be calculated according to the following equation, provided that no more than 60% of a large volume manufacturer's ZEV requirement for a given model year may be satisfied with partial ZEV allowance vehicles or credits from such vehicles:

(No. of ZEVs required to be produced and delivered for sale in California for the model year) - (No. of ZEVs and full ZEV allowance vehicles produced and delivered for sale in California for the model year) - (No. of ZEV allowances from partial ZEV allowance vehicles produced and delivered for sale in California in the model year) - [(Amount of ZEV credits + credits from partial ZEV allowance vehicles submitted) / (the fleet average requirement for PCs and LDT1s for the model-year)].

(e) *Test Procedures.* The certification requirements and test procedures for determining compliance with the this section 1962 are set forth in "California Zero-Emission and Hybrid Electric Vehicle Exhaust Emission Standards and Test procedures for 2003 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles," adopted by the state board on [Insert date of adoption] , which is incorporated herein by reference.

(f) *Abbreviations.* The following abbreviations are used in this section 1962:

"HEV" means hybrid-electric vehicle.

"LDT" means light-duty truck.

"LDT1" means a light-truck with a loaded vehicle weight of 0-3750 pounds.

"MDV" means medium-duty vehicle.

"Non-Methane Organic Gases" or "NMOG" means the total mass of oxygenated and non-oxygenated hydrocarbon emissions.

"NOx" means oxides of nitrogen.

"PC" means passenger car.

"SULEV" means super ultra-low-emission-vehicle.

"ULEV" means ultra-low emission vehicle.

"VMT" means vehicle miles traveled.

Note: Authority cited: Sections 39600, 39601, 43013, 43018, 43101, 43104 and 43105, Health and Safety Code. Reference: Sections 39002, 39003, 39667, 43000, 43009.5, 43013, 43018, 43100, 43101, 43101.5, 43102, 43104, 43105, 43106, 43107, 43204, and 43205.5, Health and Safety Code.

### ***Summary Explanation of Proposed Modifications***

*This new section 1962 contains all of the provisions on ZEVs moved from section 1960.1(g)(1) and (2), with the proposed LEV II modifications. It is staff's intent that there be no changes affecting 1998 and prior model year ZEVs other than the removal of the discounting provisions in section 1960.1(g)(2) footnote (9)a.4. The LEV II modifications pertaining to ZEVs are discussed in Section II.B. of the Staff Report.*

5. Amend title 13, CCR, section 1965 to read as follows:

**§1965. Emission Control Labels - 1979 and Subsequent Model-Year Motor Vehicles.**

In addition to all other requirements, emission control labels required by California certification procedures and smog index labels shall conform to the “California Motor Vehicle Emission Control and Smog Index Label Specifications,” adopted March 1, 1978, as last amended ~~June 24, 1996 (as corrected September 20, 1996)~~ [Insert date of amendment], which is incorporated herein by reference.

Note: Authority cited: Sections 39600, 39601, and 43200, Health and Safety Code. Reference: Sections 39002, 39003, 43000, 43013, 43100, 43101, 43102, 43103, 43104, 43107, and 43200, Health and Safety Code.

***Summary Explanation of Proposed Modifications***

*The specifications incorporated by reference in the CCR section are being amended to include the LEV II modifications to the Smog Index Label Specifications. See Part II of the Staff Report for a discussion of the proposed modifications.*

6. Amend title 13, CCR section 1968.1 to read as follows:

**§1968.1 Malfunction and Diagnostic System Requirements - 1994 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks and medium-Duty Vehicles and Engines.**

[Subsections (a) through (b)(4.2.1) -- No change.]

(4.2.2) Beginning with the 2000 model year, manufacturers shall phase-in diagnostic strategies to detect system leaks greater than or equal in magnitude to a leak caused by a 0.020 inch diameter orifice. The phase-in percentages (based on the manufacturer's projected sales volume for all vehicles) shall equal or exceed ~~50~~ 20 percent for the 2000 model year, ~~75~~ 40 percent for the 2001 model year, 70 percent for the 2002 model year, and 100 percent implementation for the ~~2002~~ 2003 model year. Alternate phase-in schedules that provide for equivalent emission reduction and timeliness overall shall be accepted. Small volume manufacturers shall not be subject to the phase-in requirements; however, 100 percent implementation shall be required for the ~~2002~~ 2003 model year.

Subsections (b)(4.2.3) through (n) -- No change.]

Note: Authority cited: Sections 39515, 39600, 39601, 43006, 43013, 43018, 43104, and 44036.2, Health and Safety Code, Sections 27156 and 38395 Vehicle Code. Reference: Sections 39002, 39003, 39667, 43000, 43004, 43006, 43008.6, 43013, 43018, 43100, 43101, 43101.5, 43102, 43104, 43105, 43106, 43204, and 44036.2, Health and Safety Code, Sections 27156, 38391, and 38395, Vehicle Code.

***Summary Explanation for Proposed Modifications***

*The staff is proposing to extend by one model year the phase-in associated with the 0.020 inch evaporative leak detection requirement that is part of the On-Board Diagnostic II (OBD II) regulation. More gradual phase-in percentages are also proposed. The purpose of the proposed amendments is to provide manufacturers with limited additional lead time to better ensure that the monitoring strategies they implement under this requirement will perform reliably in detecting in-use malfunctions while effectively guarding against false malfunction indications.*

7. Amend Title 13, CCR, section 1976 to read as follows:

**§1976. Standards and Test Procedures for Motor Vehicle Fuel Evaporative Emissions.**

[Subsection (a) -- No change.]

(b)(1) Evaporative emissions for 1978 and subsequent model gasoline-fueled, 1983 and subsequent model liquefied petroleum gas-fueled, and 1993 and subsequent model alcohol-fueled motor vehicles and hybrid electric vehicles subject to exhaust emission standards under this article, except petroleum-fueled diesel vehicles, compressed natural gas-fueled vehicles, hybrid electric vehicles that have sealed fuel systems which can be demonstrated to have no evaporative emissions, and motorcycles, shall not exceed the following standards:

(A) For vehicles identified below, tested in accordance with the test procedure based on the Sealed Housing for Evaporative Determination as set forth in Title 40, Code of Federal Regulations, sections 86.130-78 through 86.143-90 as they existed July 1, 1989, the evaporative emission standards are:

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<i>Vehicle Type</i>	<i>Model Year</i>	<i>Hydrocarbons<sup>(1)</sup> Diurnal + Hot Soak (grams/test) 50K miles</i>
Passenger cars	1978 and 1979	6.0
Light-duty trucks		6.0
Medium-duty vehicles		6.0
Heavy-duty vehicles		6.0
Passenger cars	1980-1994 <sup>(2)</sup>	2.0
Light-duty trucks		2.0
Medium-duty vehicles		2.0
Heavy-duty vehicles		2.0

- (1) Organic Material Hydrocarbon Equivalent, for alcohol-fueled vehicles.  
 (2) Other than hybrid electric vehicles.
-

- (B) For the vehicles identified below, tested in accordance with the test procedure which includes the running loss test, the hot soak test, and the 72 hour diurnal test, the evaporative emission standards are:

<i>Vehicle Type</i>	<i>Model Year</i>	<i>Hydrocarbons<sup>(1)</sup></i>	
		<i>Three-Day Diurnal +Hot Soak (grams/test) Useful Life<sup>(2)</sup></i>	<i>Running Loss (grams/mile) Useful Life<sup>(2)</sup></i>
Passenger cars	1995 through 2005 and subsequent <sup>(3)</sup>	2.0	0.05
Light-duty trucks		2.0	0.05
Medium-duty vehicles (6,001-8,500 lbs. GVWR) with fuel tanks < 30 gallons		2.0	0.05
with fuel tanks ≥ 30 gallons		2.5	0.05
(8,501-14,000 lbs. GVWR) <sup>(4)</sup>		3.0	0.05
Heavy-duty vehicles (over 14,000 lbs. GVWR)		2.0	0.05
Hybrid electric passenger cars	1993 through 2005 and subsequent <sup>(5)</sup>	2.0	0.05
Hybrid electric light-duty trucks		2.0	0.05
Hybrid electric medium-duty vehicles		2.0	0.05

- (1) Organic Material Hydrocarbon Equivalent for alcohol-fueled vehicles.
- (2) For purposes of this paragraph, “useful life” shall have the same meaning as provided in section 2112, title 13, California Code of Regulations. Approval of vehicles which are not exhaust emission tested using a chassis dynamometer pursuant to section 1960.1 or 1961, title 13, California Code of Regulations shall be based on an engineering evaluation of the system and data submitted by the applicant.
- (3) The running loss and useful life three-day diurnal plus hot soak evaporative emission standards (hereinafter “running loss and useful life standards”) shall be phased-in beginning with the 1995 model year. Each manufacturer, except ultra-small volume and small volume manufacturers, shall certify the specified percent (a) of passenger cars and (b) of light-duty trucks, medium-duty vehicles

and heavy-duty vehicles to the running loss and useful life standards according to the following schedule:

<i>Model Year</i>	<i>Minimum Percentage of Vehicles Certified to Running Loss and Useful Life Standards*</i>
1995	10 percent
1996	30 percent
1997	50 percent

\* The minimum percentage of motor vehicles of each vehicle type required to be certified to the running loss and useful life standards shall be based on the manufacturer's projected California model-year sales (a) of passenger cars and (b) of light-duty trucks, medium-duty vehicles and heavy-duty vehicles. Optionally, the percentage of motor vehicles can also be based on the manufacturer's projected California model-year sales (a) of passenger cars and light-duty trucks and (b) of medium-duty vehicles and heavy-duty vehicles.

Beginning with the 1998 model year, all motor vehicles subject to the running loss and useful life standards, except those produced by ultra-small volume manufacturers, shall be certified to the specified standards. In the 1999 through the 2005 ~~and subsequent~~ model years, all motor vehicles subject to the running loss and useful life standards, including those produced by ultra-small volume manufacturers, shall be certified to the specified standards.

All 1995 through 1998 model-year motor vehicles which are not subject to running loss and useful life standards pursuant to the phase-in schedule shall comply with the 50,000-mile standards in effect for 1980 through 1994 model-year vehicles.

- (4) For the 1995 model year only, the evaporative emission standards for complete vehicles in this weight range shall be 2.0 grams/test and compliance with the evaporative emission standards shall be based on the SHED conducted in accordance with the procedures set forth in title 40, Code of Federal Regulations, sections 86.130-78 through 86.143-90 as they existed July 1, 1989. For the 1995 through 2005 ~~and subsequent~~ model years, the evaporative emission standards for incomplete vehicles in this weight range shall be 2.0 grams/test and compliance with the evaporative emission standards shall be based on the test procedures specified in paragraph 4.g. of the "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Motor Vehicles."
- (5) The running loss and useful life standards for all hybrid electric vehicles shall be effective beginning in the 1993 ~~and subsequent~~ model years.

(C) For vehicles identified below, tested in accordance with the test procedure which includes the hot soak test and the 48 hour diurnal test, the evaporative emission standards are:

<i>Vehicle Type</i>	<i>Model Year</i>	<i>Hydrocarbons<sup>(1)</sup> Two-Day Diurnal + Hot Soak (grams/test) Useful Life<sup>(2)</sup></i>
Passenger cars	1996 <u>through</u> 2005 <u>and</u> subsequent <sup>(3)</sup>	2.5
Light-duty trucks		2.5
Medium-duty vehicles (6,001-8,500 lbs. GVWR) with fuel tanks < 30 gallons		2.5
		with fuel tanks ≥ 30 gallons
Medium-duty vehicles (8,501-14,000 lbs. GVWR)		3.5
Heavy-duty vehicles (over 14,000 lbs. GVWR)	4.5	
Hybrid electric passenger cars	1996 <u>through</u> 2005 <u>and</u> subsequent <sup>(3)</sup>	2.5
Hybrid electric light-duty trucks		2.5
Hybrid electric medium-duty vehicles		2.5

- (1) Organic Material Hydrocarbon Equivalent for alcohol-fueled vehicles.
- (2) For purposes of this paragraph, “useful life” shall have the same meaning as provided in section 2112, title 13, California Code of Regulations. Approval of vehicles which are not exhaust emission tested using a chassis dynamometer pursuant to section 1960.1 or 1961, title 13, California Code of Regulations shall be based on an engineering evaluation of the system and data submitted by the applicant.
- (3) The two-day diurnal plus hot soak evaporative emission standards (hereinafter “supplemental standards”) shall be phased-in beginning with the 1996 model year. Those vehicles certified under the running loss and useful life standards for the 1996 through 2005 and subsequent model years must also be certified under the supplemental standards.

(D) Zero-emission vehicles shall produce zero fuel evaporative emissions under any and all possible operational modes and conditions.

(E) The optional zero-fuel evaporative emission standards for the three-day and two-day diurnal-plus-hot-soak tests are 0.35 grams per test for passenger cars, 0.50 grams per test for light-duty trucks under 6,000 lbs. GVWR, and 0.75 grams per

test for light-duty trucks from 6,001 to 8,500 lbs. GVWR, to account for vehicle non-fuel evaporative emissions (resulting from paints, upholstery, tires, and other vehicle sources). Vehicles demonstrating compliance with these evaporative emission standards shall have zero (0.0) grams of fuel evaporative emissions. The manufacturer shall submit for advance Executive Officer approval a test plan to demonstrate that the vehicle has zero fuel evaporative emissions throughout its useful life.

- (F) For the 2004 and subsequent model motor vehicles identified below, tested in accordance with the test procedures described in Title 40, Code of Federal Regulations, sections 86.130-78 through 86.143-90 as they existed July 1, 1989 and as modified by the “California Evaporative Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles” incorporated by reference in section 1976(c), the evaporative emission standards are:

<u>Vehicle Type</u>	<u>Hydrocarbon<sup>(1)</sup> Standards<sup>(2)(3)</sup></u>		
	<u>Running Loss (grams per mile)</u>	<u>Three Day Diurnal + Hot Soak (grams per test)</u>	<u>Two-Day Diurnal + Hot Soak (grams per test)</u>
<u>Passenger cars</u>	<u>0.05</u>	<u>0.50</u>	<u>0.65</u>
<u>Light-duty trucks (under 8,501 lbs. GVWR)</u>			
<u>under 6,000 lbs. GVWR</u>	<u>0.05</u>	<u>0.65</u>	<u>0.85</u>
<u>6,001 - 8,500 lbs. GVWR</u>	<u>0.05</u>	<u>0.90</u>	<u>1.15</u>
<u>Medium-duty vehicles (8,501 - 14,000 lbs. GVWR)</u>	<u>0.05</u>	<u>1.00</u>	<u>1.25</u>
<u>Heavy-duty vehicles (over 14,000 lbs. GVWR)</u>	<u>0.05</u>	<u>1.00</u>	<u>1.25</u>

- (1) Organic Material Hydrocarbon Equivalent for alcohol-fueled vehicles.
- (2) For all vehicles certified to these standards, the “useful life” shall be 15 years or 150,000 miles, whichever first occurs. Approval of vehicles which are not exhaust emission tested using a chassis dynamometer pursuant to section 1960.1 or 1961, title 13, California Code of Regulations shall be based on an engineering evaluation of the system and data submitted by the applicant.
- (3) (a) These evaporative emission standards shall be phased-in beginning with the 2004 model year. Each manufacturer, except small volume manufacturers, shall certify the specified percentage of

passenger cars, light-duty trucks, medium-duty vehicles, and heavy-duty vehicles to these evaporative emission standards according to the following schedule:

<u>Model Year</u>	<u>Minimum Percentage of Vehicles Certified</u>
<u>2004</u>	<u>40</u>
<u>2005</u>	<u>80</u>
<u>2006 and subsequent</u>	<u>100</u>

A small volume manufacturer shall certify 100 percent of its 2006 and subsequent model passenger cars, light-duty trucks, medium-duty vehicles, and heavy-duty vehicles to these evaporative emission standards.

All 2004 through 2005 model-year motor vehicles which are not subject to these standards pursuant to the phase-in schedule shall comply with the requirements of sections 1976(b)(1)(B) and (C).

(b) A manufacturer may use an “Alternative or Equivalent Phase-in Schedule” to comply with the phase-in requirements. An “Alternative Phase-in” is one that achieves at least equivalent emission reductions by the end of the last model year of the scheduled phase-in. Model-year emission reductions shall be calculated by multiplying the percent of vehicles (based on the manufacturer’s projected California sales volume of the applicable vehicle fleet) meeting the new requirements per model year by the number of model years implemented prior to and including the last model year of the scheduled phase-in. The “cumulative total” is the summation of the model-year emission reductions (e.g., the three model-year 40/80/100 percent phase-in schedule would be calculated as:  $(40\% * 3 \text{ years}) + (80\% * 2 \text{ years}) + (100\% * 1 \text{ year}) = 380$ ). The required cumulative total for the phase-in of these standards is 380 emission reductions. Any alternative phase-in that results in an equal or larger cumulative total than the required cumulative total by the end of the last model year of the scheduled phase-in shall be considered acceptable by the Executive Officer only if all vehicles subject to the phase-in comply with the respective requirements in the last model year of the required phase-in schedule. A manufacturer shall be allowed to include vehicles introduced before the first model year of the scheduled phase-in (e.g., in the previous example, 10 percent introduced one year before the scheduled phase-in begins would be calculated as:  $(10\% * 4 \text{ years}) = 40$ ) and added to the cumulative total.

- (4) In-use compliance whole vehicle testing shall not begin until the motor vehicle is at least one year from the production date and has accumulated a minimum of 10,000 miles.

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[Subsection (b)(2) --No change.]

(c) The test procedures for determining compliance with the standards in subsection (b) above applicable to 1978 through 2000 model year vehicles is set forth in “California Evaporative Emission Standards and Test Procedures for 1978-2000 and Subsequent Model Motor Vehicles,” adopted by the state board on April 16, 1975, as last amended ~~May 22, 1997,~~

~~effective October 16, 1997,~~ [Insert date of amendment] , which is incorporated herein by reference. The test procedures for determining compliance with standards applicable to 2001 and subsequent model year vehicles are set forth in the “California Evaporative Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles,” adopted by the state board on [Insert date of adoption] , which is incorporated herein by reference.

[Subsections (d) through (f)(1) -- No change.]

(f)(2) For the purposes of this section, “ultra-small volume manufacturer” means any vehicle manufacturer with California sales less than or equal to 300 new vehicles per model year based on the average number of vehicles sold by the manufacturer in the previous three consecutive model years, and “small volume manufacturer” means, for 1978 through 2000 model years, any vehicle manufacturer with California sales less than or equal to 3000 new vehicles per model year based on the average number of vehicles sold by the manufacturer in the previous three consecutive model years. For 2001 and subsequent model motor vehicles, “small volume manufacturer” means any vehicle manufacturer with California sales less than or equal to 4,500 new vehicles per model year based on the average number of vehicles sold by the manufacturer in the previous three consecutive model years.

Note: Authority cited: Sections 39600, 39601, 39667, 43013, 43018, 43101, 43104 and 43107, Health and Safety Code. Reference: Sections 39003, 39500, 39667, 43000, 43013, 43018, 43100, 43101, 43102, 43104 and 43107, Health and Safety Code.

### ***Summary Explanation of Proposed Modifications***

*See Part III of the Staff Report for a discussion of the proposed modifications.*

8. Amend title 13, CCR, section 1978 to read as follows:

**§1978. Standards and Test Procedures for Vehicle Refueling Emissions.**

(a)(1) Vehicle refueling emissions for 1998 and subsequent model gasoline-fueled, alcohol-fueled, diesel-fueled, fuel-flexible, and hybrid electric passenger cars, light-duty trucks, and medium-duty vehicles with a gross vehicle weight rating less than 8501 pounds, shall not exceed the following standards. Gaseous fueled vehicles are exempt from meeting these refueling standards. The standards apply equally to certification and in- use vehicles.

Hydrocarbons (for gasoline-fueled, diesel-fueled, and hybrid electric vehicles): 0.20 grams per gallon of fuel dispensed.

Organic Material Hydrocarbon Equivalent (for alcohol-fueled, fuel-flexible, and hybrid electric vehicles): 0.20 grams per gallon of fuel dispensed.

(2) Vehicles powered by diesel fuel are not required to conduct testing to demonstrate compliance with the refueling emission standards set forth above, provided that all of the following provisions are met:

(A) The manufacturer can attest to the following evaluation: “Due to the low vapor pressure of diesel fuel and the vehicle tank temperatures, hydrocarbon vapor concentrations are low and the vehicle meets the 0.20 grams/gallon refueling emission standard without a control system.”

(B) The certification requirement described in paragraph (A) is provided in writing and applies for the full useful life of the vehicle, as defined in section 2112.

In addition to the above provisions, the ARB reserves the authority to require testing to enforce compliance and to prevent noncompliance with the refueling emission standard.

Vehicles certified to the refueling emission standard under this provision shall not be counted in the phase-in sales percentage compliance determinations.

(3) The manufacturer shall adhere to the following phase-in schedule, as determined by projected vehicle sales throughout the United States, with the exception of small volume manufacturers.

<b>ORVR Model Year Phase-In Schedule</b>			
<b>Class of Vehicle</b>	<b>40% Fleet</b>	<b>80% Fleet</b>	<b>100% Fleet</b>
Passenger Cars	1998	1999	2000
Light-Duty Trucks	2001	2002	2003
Medium-Duty Vehicles (6,001-8,500 lbs. GVWR)	2004	2005	2006

(A) Small volume manufacturers are defined for purposes of this ~~section regulation~~ as any vehicle manufacturer with California actual sales less than or equal to 3000 ~~(4500 for 2001 and subsequent model years)~~ new vehicles per model year based on the average number of vehicles sold by the manufacturer in the previous three consecutive years.

(B) Small volume manufacturers of passenger cars, as defined in (3)(A), are exempt from the implementation schedule in (3) for model years 1998 and 1999. For small volume manufacturers of passenger cars, the standards of (a)(1), and the associated test procedures, shall not apply until model year 2000, when 100 percent compliance with the standards of this section is required. Small volume manufacturers of light-duty trucks and medium-duty vehicles are not exempt from the implementation schedule in (3).

(b) The test procedures for determining compliance with standards applicable to 1998 ~~through 2000 and subsequent~~ gasoline, alcohol, diesel, and hybrid electric passenger cars, light-duty trucks, and medium-duty vehicles are set forth in the “California Refueling Emission Standards and Test Procedures for 1998-~~2000 and Subsequent~~ Model Motor Vehicles,” adopted April 24, 1996, effective June 19, 1996, ~~as amended~~, incorporated herein by reference. ~~The test procedures for determining compliance with standards applicable to 2001 and subsequent gasoline, alcohol, diesel, and hybrid electric passenger cars, light-duty trucks, and medium-duty vehicles are set forth in the “California Refueling Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles,” adopted~~, which is ~~incorporated herein by reference.~~

Note: Authority cited: Sections 39600, 39667, 43013, 43018, 43101, and 43104, Health and Safety Code.  
Reference: Sections 39003, 39500, 39667, 43000, 43013, 43018, 43101, 43102, and 43104, Health and Safety Code.

### ***Summary Explanation of Proposed Modifications***

*The reference to “useful life” would be clarified. The characterization of small volume manufacturers would be updated and new test procedures would be adopted to reflect the CAP 2000 changes.*

9. Amend title 13, CCR, section 2037 to read as follows:

**§2037. Defects Warranty Requirements for 1990 and Subsequent Model Passenger Cars, Light-Duty Trucks, Medium-Duty Vehicles, and Motor Vehicle Engines Used in Such Vehicles.**

(a) through (f) -- [No change.]

(g) Prior to the 2001 model year, E each manufacturer shall submit the documents required by subsections (c)(3), (e), and (f) with the manufacturer's preliminary application for new-vehicle or engine certification for approval by the Executive Officer. For 2001 and subsequent model years, each manufacturer shall submit the documents required by section 2037(c)(3), (e), and (f) in the Part 2 Application for Certification pursuant to the "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," incorporated by reference in section 1960.1(k) and 1961(d). The Executive Officer may reject or require modification of the manufacturer's list of "high-priced" warranted parts to ensure that each such list includes all emission-related parts whose replacement cost exceeds the cost limit defined in subsection (c)(1) and also may reject or require modification of any of the documents required by subsections (e) and (f). Approval by the Executive Officer of the documents required by subsections (c), (e), and (f) shall be condition of certification. The Executive Officer shall approve or disapprove the documents required by subsections (c), (e), and (f) within 90 days of the date such documents are received from the manufacturer. Any disapproval shall be accompanied by a statement of the reasons thereof. In the event of disapproval, the manufacturer may petition the Board to review the decision of the Executive Officer.

(h) through (i) -- [No change.]

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code. Reference: Sections 43106, ~~432204~~ 43204, 43205, 44004, 44010, 44011, 44012, 44015, and 44017, Health and Safety Code.

***Summary Explanation of Proposed Modifications***

*These modifications are being proposed as a result of changes to the certification procedures under the CAP 2000 amendments. Under CAP 2000 only the most essential information is required in the Part I certification application which must be submitted prior to approval of the Executive Order granting certification. Although the warranty information is important, it is not necessary to demonstrate compliance with emission standards. Thus, staff is proposing that the warranty information required in sections 2037 and 2038 be submitted with the Part II certification application beginning with the 2001 model year.*

10. Amend title 13, CCR, section 2038, to read as follows:

**§2038. Performance Warranty Requirements for 1990 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, and Motor Vehicle Engines Used in Such Vehicles**

(a) through (l) -- [No change.]

(m) Prior to the 2001 model year, E each manufacturer shall submit the documents required by subsection (c)(1) with the manufacturer's preliminary application for new vehicle or engine certification for approval by the Executive Officer. For 2001 and subsequent model years, each manufacturer shall submit the documents required by (c)(3), (e), and (f) in the Part 2 Application for Certification pursuant to the "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," incorporated by reference in section 1960.1(k) and 1961(d). The Executive Officer may reject or require modification of the documents required by subsection (c)(1). Approval by the Executive Officer of the documents required by subsection (c)(1) shall be a condition of certification. The Executive Officer shall approve or disapprove the documents required by subsection (c)(1) within 90 days of the date such documents are received from the manufacturer. Any disapproval shall be accompanied by a statement of reasons therefore. In the event of disapproval, the manufacturer may petition the Board to review the decision of the Executive Officer.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code. Reference: Sections 43106, 43204, 43205, 44004, 44010, 44011, 44012, 44014, and 44015, Health and Safety Code.

***Summary Explanation of Proposed Modifications***

*See explanation provided under section 2037, above.*

11. Amend title 13, CCR, section 2062 to read as follows:

**§2062. Assembly-Line Test Procedures - 1998 and Subsequent Model Years.**

New 1998 ~~and subsequent through 2000~~ model-year passenger cars, light-duty trucks, and medium-duty vehicles, subject to certification and manufactured for sale in California, except for zero-emission vehicles and medium-duty vehicles certified according to the optional standards and test procedures of Section 1956.8, Title 13, California Code of Regulations, shall be tested in accordance with the “California Assembly-Line Test Procedures for 1998 ~~and Subsequent through 2000~~ Model-Year Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles.” adopted June 24, 1996, and last amended ~~March 19, 1998~~ [Insert date of amendment], which is incorporated herein by reference. New 2001 model-year passenger cars, light-duty trucks, and medium-duty vehicles, subject to certification and manufactured for sale in California, except for zero-emission vehicles and medium-duty vehicles certified according to the optional standards and test procedures of Section 1956.8, Title 13, California Code of Regulations, shall be tested in accordance with the “California Assembly-Line Test Procedures for 2001 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles.” adopted [insert date of adoption], which is incorporated herein by reference. These test procedures shall also apply to federally certified light-duty motor vehicles, except as provided in “Guidelines for Certification of 1983 and Subsequent Model-Year Federally Certified Light-Duty Motor Vehicles for Sale in California,” adopted July 20, 1982, as last amended July 12, 1991, which is incorporated herein by reference.

NOTE: Authority cited: Sections 39515, 39600, 39601, 43013, 43018, 43101, 43104 and 43210, Health and Safety Code. Reference: Sections 39002, 39003, 39500, 43000, 43013, 43018, 43100, 43101, 43101.5, 43102, ~~43103~~, 43104, 43105, 43106, 43204, 43210, 43211, and 43212, Health and Safety Code.

***Summary Explanation of Proposed Modifications***

*Under the proposed CAP 2000 amendments, quality-audit testing will no longer be required in 2001 and subsequent model years. Thus, the current assembly-line test procedures will be sunset in the 2000 model year and a new document has been created that reflects this modification.*

12. Amend title 13, CCR, section 2101 to read as follows:

**§2101. Compliance Testing and Inspection - New Vehicle Selection Evaluation, and Enforcement Action.**

(a) The Executive Officer may, with respect to any new vehicle engine family, test group or subgroup being sold, offered for sale, or manufactured for sale in California, order a vehicle manufacturer to make available for compliance testing and/or inspection a reasonable number of vehicles, and may direct that the vehicles be delivered to the state board at the Haagen-Smit Laboratory, 9528 Telstar Avenue, El Monte, California. Vehicles shall be selected at random from sources specified by the Executive Officer according to a method approved by him/her, which insofar as practical shall exclude (1) vehicles manufactured pursuant to the specific order of an ultimate purchaser or (2) vehicles the selection of which, if not excluded, would result in an unreasonable disruption of the manufacturer's distribution system.

A subgroup may be selected for compliance testing only if the Executive Officer has reason to believe that the emissions characteristics of that subgroup are substantially in excess of the emissions of the engine family or test group as a whole.

(b) If the vehicles are selected for compliance testing, the selection and testing of vehicles and the evaluation of data shall be made in accordance with the "California New Vehicle Compliance Test Procedures," adopted by the state board on June 13, 1976, and last amended ~~March 19, 1998~~ [Insert date of amendment]. Motorcycles scheduled for compliance testing shall be selected, tested, and evaluated in accordance with the "California New Motorcycle Compliance Test Procedures," adopted by the state board on June 30, 1977, and amended November 24, 1981.

(c) If the Executive Officer determines, in accordance with the "California New Vehicle Compliance Test Procedures," or the "California New Motorcycle Compliance Test Procedures" that an engine family, test group, or any subgroup within an engine family or test group, exceeds the emission standards for one or more pollutants, the Executive Officer shall notify the manufacturer and may invoke Section 2109. Prior to invoking Section 2109, the Executive Officer shall consider quality audit test results, if any, and any additional test data or other information provided by the manufacturer.

(d) [No change.]

NOTE: Authority cited: Sections 39600, 39601 and 43104, Health and Safety Code. Reference: Sections 39002, 39003, 39500, 43000, 43106, 43210, 43211, and 43212, Health and Safety Code.

### ***Summary Explanation of Proposed Modifications***

*These modifications reflect the CAP 2000 amendments that eliminate the term “engine family” and replace it with a new designation -- “test group” -- that will be effective beginning in the 2001 model year.*

13. Amend Title 13, CCR, section 2106 to read as follows:

**§2106. New Vehicle Assembly-Line Inspection Testing.**

If reports required by an assembly-line test procedure under Article 1 of Subchapter 2 are not in accordance with reporting requirements or if surveillance under Article 2 or Article 3 of Subchapter 2 indicates that assembly-line inspection testing is being improperly performed, or that vehicles are being manufactured which do not comply with the ~~assembly-line emission standards~~ or functional test requirements or, prior to the 2001 model year with the assembly-line emission standards, the Executive Officer may order corrections of reporting or test procedures, and may, in accordance with Section 2109 or 2110, as applicable, order correction of vehicles not in compliance with applicable laws, emission standards, or test procedures.

NOTE: Authority cited: Sections 39600, 39601, 43105 and 43210, Health and Safety Code. Reference: Sections 39002, 39003, 39500, 43000, 43104, 43105 and 43210, Health and Safety Code.

***Summary Explanation of Proposed Modifications***

*Under the proposed CAP 2000 amendments, quality-audit testing will no longer be required in 2001 and subsequent model years. Thus, corrections of vehicles not in compliance may only be ordered as a result of functional or inspection testing.*

14. Amend title 13, CCR, section 2107 to read as follows:

**§2107. Assembly-Line Quality-Audit Testing.**

Prior to the 2001 model year, iff any official test procedure adopted by the state board specifies that the state board may find a violation of Section 43105 or 43106 of the Health and Safety Code or of this article when a specified percentage of assembly-line vehicles exceeds a standard and when data submitted by the manufacturer indicates such percentage is being exceeded or if surveillance under Article 2 or Article 3 of Subchapter 2 indicates that assembly-line quality audit testing is being improperly performed, the Executive Officer may invoke the provisions of Section 2109 or 2110, as applicable. Quality audit testing is not required for the 2001 and subsequent model years.

NOTE: Authority cited: Sections 39600, 39601, 43105 and 43210, Health and Safety Code. Reference: Sections 39002, 39003, 39500, 43000, 43102, 43105, 43106 and 43210, Health and Safety Code.

***Summary Explanation of Proposed Modifications***

*Under the proposed CAP 2000 amendments, quality-audit testing will no longer be required in 2001 and subsequent model years. See Part III of the Staff Report for an explanation of this proposed modification.*

15. Amend title 13, CCR, section 2110 to read as follows:

**§2110. Remedial Action for Assembly-Line Quality Audit Testing of Less Than a Full Calendar Quarter of Production Prior to the 2001 Model Year.**

(a) When this section is invoked prior to the 2001 model year pursuant to other sections of this article or Health and Safety Code Section 43105, the executive officer shall order the manufacturer to submit a remedial plan to bring all vehicles in possession of the manufacturer into compliance. [No change to remainder of (a)]

(b) and (c) [No change.]

NOTE: Authority cited: Sections 39600, 39601 and 43105, Health and Safety Code. Reference: Sections 39002, 39003, 39500, 43000, 43016, 43100-43102, 43104 and 43106, Health and Safety Code.

***Summary Explanation of Proposed Modifications***

*Under the proposed CAP 2000 amendments, quality-audit testing will no longer be required in 2001 and subsequent model years. Thus, this section will no longer apply after the 2000 model year.*

16. Amend Title 13, CCR, section 2112 to read as follows:

**§2112. Definitions.**

(a) [No change.]

(b) “Correlation factor” means a pollutant-specific multiplicative factor calculated by a manufacturer for an engine family or test group which establishes a relationship between chassis exhaust emission data, as determined from the test procedures specified in section 1960.1 or 1961, Title 13, California Code of Regulations, and engine exhaust emission data, as determined from the test procedures specified in section 1956.8, Title 13, California Code of Regulations.

(c) through (l)(8) -- [No change.]

(l)(9) For 2001 and subsequent model year medium-duty low-emission, ultra-low-emission and super-ultra-low-emission vehicles certified to the primary standards in section 1961(a)(1), and motor vehicle engines used in such vehicles, a period of use of ten years or 120,000 miles, whichever occurs first. For 2001 and subsequent medium-duty low-emission, ultra-low-emission and super-ultra-low-emission vehicles certified to the optional 150,000 mile standards in section 1961(a)(1), and motor vehicle engines used in such vehicles, a period of use of fifteen years or 150,000 miles. For all other 1995 and subsequent model-year medium-duty vehicles; and motor vehicle engines used in such vehicles, and 1992 and subsequent through 1994 model-year medium-duty low-emission, and ultra-low-emission vehicles certified to the standards in Section 1960.1(h)(2); and motor vehicle engines used in such vehicles, a period of use of eleven years or 120,000 miles, whichever first occurs.

(l)(10) through (l)(16) -- [No change.]

(l)(17) For those passenger cars and light-duty trucks certified to the primary standards in section 1961(a)(1), the useful life shall be ten years or 120,000 miles, whichever occurs first. For 2001 and subsequent medium-duty low-emission, ultra-low-emission and super-ultra-low-emission vehicles certified to the optional 150,000 mile standards in section 1961(a)(1), and motor vehicle engines used in such vehicles, a period of use of fifteen years or 150,000 miles.

(m) through Appendix A -- [No change.]

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018, 43101, 43104, and 43105, Health and Safety Code. Reference: Sections 39002, 39003, 43000, 43009.5, 43013, 43018, 43100, 43101, 43101.5, 43102, 43103, 43104, 43105, 43106, 43107, and 43204-43205.5, Health and Safety Code.

### ***Summary Explanation of Proposed Modifications***

*The addition of the term “test group” is a result of the CAP 2000 amendments and the addition of a new CCR section 1961 reflects the proposed LEV II emission standards. One of the proposed amendments to the LEV II regulations is the increase in the useful life of passenger cars, and light-duty trucks to 10 years or 120,000 miles and the addition of an optional 150,000 mile useful life standard. The useful life of medium-duty vehicles has been amended to 10 years to align with the passenger car and light-duty truck useful life.*

17. Amend title 13, CCR, section 2114 to read as follows:

**§2114. Voluntary and Influenced Recall Plans.**

(a) The recall plan for both voluntary and influenced recalls shall contain the following information unless otherwise specified:

(1) A description of each class or category of vehicle or engine subject to recall including the number of vehicles or engines to be recalled, the engine family, test group or a subgroup thereof, the model year, the make, the model, and such other information as may be required to identify the vehicles or engines to be recalled.

(a)(2) through (a)(9) -- [No change.]

(10) Under an influenced recall, an estimate of the capture rate from the proposed recall derived from actual data and/or manufacturer experience. A 60 percent capture rate shall be assigned for recalls based exclusively on noncompliance as defined in Section 2112(~~g~~h)(1), above.

(11) Under an influenced recall based on noncompliance as defined in Section 2112(~~g~~h)(2), above, a description of the impact of the proposed changes on the average emissions from the vehicles or engines to be recalled. The description shall contain the following:

(11)(A) through (C) -- [No change.]

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018 and 43105, Health and Safety Code.  
Reference: Health and Safety Code Sections 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5.

***Summary Explanation of Proposed Modifications***

*The term “test group” has been added to reflect CAP 2000 amendments. The changes in subsections (10) and (11) are corrections. The correct reference should be subsection 2112(h) rather than (g).*

18. Amend title 13, CCR, section 2119 to read as follows:

**§2119. Recordkeeping Reporting Requirements.**

(a) Unless otherwise specified by the Executive Officer, the manufacturer shall report on the progress of the recall campaign by submitting subsequent reports for six consecutive quarters commencing with the quarter after the recall campaign begins. Such reports shall be submitted no later than 25 days after the close of each calendar quarter to: Chief, Mobile Source Operations Division, 9528 Telstar, El Monte, CA 91731. For each class or category of vehicle or engine subject to the emission recall campaign, the quarterly report shall contain the following:

(1) Engine family or test group and emission recall campaign number designated by the manufacturer.

(a)(2) through (d) -- [No change.]

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018 and 43105, Health and Safety Code.  
Reference: Sections 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code.

***Summary Explanation of Proposed Modifications***

*The term “test group” has been added to reflect CAP 2000 amendments and the name of the Mobile Source Division has been amended to reflect the creation of the Mobile Source Operations Division.*

19. Amend title 13, CCR, section 2130 to read as follows:

**§2130. Capture Rates and Alternative Measures.**

The manufacturer shall comply with the capture rate specified in the recall plan as determined pursuant to Section 2125(b)(6), above, within six consecutive quarters beginning with the quarter in which the notification of vehicle or engine owners was initiated. If, after good faith efforts, the manufacturer cannot correct the percentage of vehicles specified in the plan by the applicable deadlines and cannot take other measures to bring the engine family or test group into compliance with the standards, the manufacturer shall propose mitigation measures to offset the emissions of the unrepaired vehicles within 45 days from the last report filed pursuant to Section 2133(c), below. The Executive Officer shall approve such measures provided that:

(a) through (c) -- [No change.]

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018 and 43105, Health and Safety Code.  
Reference: Sections 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code.

***Summary Explanation of Proposed Modifications***

*The term “test group” has been added to reflect CAP 2000 amendments.*

20. Amend title 13, CCR, section 2137 to read as follows:

**§2137. Vehicle Selection.**

(a) Any vehicle of an engine family, test group, or any vehicle of a subgroup of an engine family or test group, manufactured for sale in California, shall be subject to these test procedures during its useful life. A minimum of ten (10) in-use vehicles determined by the ARB to be properly maintained and used will be procured and tested by the ARB or its designated laboratory to represent the emission characteristics of the engine family, test group or subgroup. The ARB may test less than ten (10) in-use vehicles if the manufacturer notifies the ARB in writing that the manufacturer will accept the results from less than ten (10) vehicles as being representative of the engine family, test group or subgroup.

(b) through (4) -- [No change.]

~~(5) — Lead content of fuel sample from the vehicle tank meets applicable standards.~~

(b)(6) -- [No change.]

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018 and 43105, Health and Safety Code.  
Reference: Sections 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code.

***Summary Explanation of Proposed Modifications***

*The term “test group” has been added to reflect CAP 2000 amendments and the express provision that the lead content of the fuel in the fuel tank meets applicable standards has been removed because lead has been prohibited in California gasoline since January 1, 1992 under title 13, CCR section 2253.4, and has been prohibited nationwide since January 1, 1996 under federal Clean Air Act section 211(n).*

21. Amend title 13, CCR, section 2138 to read as follows:

**§2138. Restorative Maintenance and Preconditioning.**

(a) Upon accepting a vehicle for testing, the ARB or its designated laboratory will replace the fuel with Indolene Clear or appropriate certification test fuel. ~~Cold soak periods shall be at least 12 hours but less than 36 hours prior to testing.~~

(b) through (b)(5) -- [No change.]

(6) Check the OBD system for proper operation.

(7) If the vehicle is within 500 miles of a scheduled maintenance service, that maintenance shall be performed except in the case of off-road motorcycles and all-terrain vehicles. For off-road motorcycles and all-terrain vehicles, all required maintenance shall be performed.

(c) -- [No change.]

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018 and 43105, Health and Safety Code.  
Reference: Sections 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code.

***Summary Explanation of Proposed Modifications***

*These amendments bring this procedure up to date to include a system check of the on-board diagnostic system and the method for preconditioning has been removed because it is already set forth in Subpart B of the CFR which is incorporated by reference in the "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles."*

22. Amend title 13, CCR, section 2139 to read as follows:

**§2139. Testing.**

After the vehicles have been accepted and restorative maintenance, if any, has been performed, the ARB or its designated laboratory shall perform the applicable emission tests pursuant to the following:

(a) For passenger cars and light-duty trucks, in-use compliance emission tests shall be performed pursuant to section 1960.1 or 1961, Title 13, California Code of Regulations, as applicable.

(b) For medium-duty vehicles certified according to the chassis standards and test procedures specified in section 1960.1 or 1961, Title 13, California Code of Regulations and the documents incorporated by reference therein, in-use compliance emission tests shall be performed pursuant to section 1960.1 or 1961, Title 13, California Code of Regulations, as applicable.

(c) For medium-duty engines and vehicles certified according to the optional engine test procedures specified in section 1956.8, Title 13, California Code of Regulations and the documents incorporated by reference therein, in-use compliance emission tests shall be performed pursuant to one of the following procedures:

(1) The engines of medium-duty vehicles may be tested pursuant to the engine test procedures specified in section 1956.8, provided that the manufacturer or its designated laboratory conduct procurement and enforcement testing pursuant to Sections 2136 through 2140, Title 13, California Code of Regulation, at the manufacturer's expense.

For manufacturers that have only one engine family or test group, the manufacturer or its designated laboratory that have more than one engine family or test group, the manufacturer or its designated laboratory shall procure no more than fifteen vehicles per engine family or test group. For manufacturers that have more than one engine family or test group, the manufacturer or its designated laboratory shall procure and test at the manufacturer's expense no more than one-third of its engine families or test groups and no more than fifteen vehicles from each engine family or test group. For the purposes of this section, "one-third" of a manufacturer's engine families or test groups shall be determined by dividing the number of distinct engine families or test groups by three, adding 0.5, and truncating the result to the nearest whole number.

The specific engine families or test groups subject to enforcement testing shall be selected by the ARB. The manufacturer or its designated laboratory shall begin the engine procurement process within 10 working days of notification by the ARB and shall complete testing within 100 working days of notification by the ARB. The Executive Officer shall approve the manufacturer's procurement procedures in advance of their use by the manufacturer. The Executive Officer shall approve a manufacturer's procurement procedures if engines are screened according to the

criteria specified in section 2137, Title 13, California Code of Regulations and selected randomly from registration records compiled and prepared by R.L. Polk and Company or a comparable source. In addition, no vehicle shall be selected for enforcement testing with mileage less than 60 percent of the useful-life mileage without prior approval from the Executive Officer. The manufacturer shall permit an ARB representative to witness procurement, restorative maintenance, and enforcement testing. The Executive Officer shall have the authority to accept or reject a test engine based upon criteria specified in section 2137. Once an engine has been tested and determined to be in compliance with the current in-use emission standards, no further testing will be performed on subsequent engine families or test groups that carry-over the durability data of the tested engine family or test group.

Notwithstanding the above, if a manufacturer fails to demonstrate compliance with the emission standards after one-third of its engine families or test groups have been tested, additional engine families or test groups shall be tested, by the manufacturer or its designated laboratory, at the manufacturer's expense, until compliance is demonstrated on one-third of the engine families or test groups or all of a manufacturer's engine families or test groups have been tested. In addition, any engine family or test group which has been tested and determined to be in noncompliance shall be retested by the manufacturer each subsequent year until compliance with the applicable emission standards has been demonstrated. Notwithstanding the above, the ARB may conduct engine enforcement testing pursuant to the engine test procedures specified in section 1956.8, at their own expense.

(2) Medium-duty vehicles may be tested according to the chassis test procedures specified in section 1960.1(k) or 1961, as applicable, if a manufacturer develops correlation factors which establish the relationship between engine and chassis testing for each engine family or test group and submits these correlation factors within one year after the beginning of production. The correlation factors shall be applied to the measured in-use engine exhaust emission data to determine the in-use engine exhaust emission levels. All correlation factors and supporting data included in a manufacturer's application must be submitted to and approved by the Executive Officer in advance of their use by a manufacturer. Correlation factors intended to apply to a specific engine family or test group shall be applicable for each vehicle model incorporating that specific engine. Manufacturers shall submit test data demonstrating the applicability of the correlation factors for vehicle models comprising a minimum of 80 percent of their engine sales for that specific engine family or test group. The correlation factors for the remaining fleet may be determined through an engineering evaluation based upon a comparison with similar vehicle models. The Executive Officer shall approve a submitted correlation factor if it accurately corresponds to other established empirical and theoretical correlation factors and to emission test data available to the Executive Officer.

A manufacturer may choose to use the results from the chassis in-use testing as a screening test. If an engine family or test group does not demonstrate compliance with any of the applicable in-use engine standards, as determined from the chassis test data and the applied correlation factors, the manufacturer shall be subject to the requirements and cost of in-use

compliance engine testing, as specified in section 2139(c)(1). The manufacturer shall be subject to engine testing for any non-complying engine family or test group for each subsequent year until compliance with the engine emission standards is demonstrated.

Subsequent to approval of the correlation factors, the Executive Officer may make a determination that the original correlation factors are not valid. Such a determination may be based upon in-use emission data, including chassis and engine testing. Upon determination that the correlation factors for a specific engine family or test group are not valid, the manufacturer of the engine family or test group shall be subject to the enforcement testing requirements and costs of in-use compliance engine testing, as specified in section 2139(c)(1).

(c)(3) through (g) -- [No change.]

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018, 43101, 43104 and 43105, Health and Safety Code. Reference: Sections 39002, 39003, 43000, 43009.5, 43013, 43018, 43100, 43101, 43101.5, 43102, 43103, 43104, 43105, 43106, 43107, 43204-43205.5, and 43211-43213 Health and Safety Code.

### ***Summary Explanation of Proposed Modifications***

*The addition of the term “test group” is a result of the CAP 2000 amendments and the addition of a new CCR section 1961 reflects the proposed LEV II emission standards.*

23. Amend title 13, CCR, section 2140 to read as follows:

**§2140. Notification and Use of Test Results.**

(a) The Executive Officer shall notify the manufacturer in writing if the in-use vehicle enforcement test results indicate that the test fleet contains three or more failures of the same emission-related component. Upon receipt of the notification, the manufacturer shall submit an emissions information report in accordance with Title 13, California Code of Regulations, Sections 2146 and 2147. The engine family, test group or sub-group manufacturer shall be subject to recall when a specific emission-related failure occurred in three or more test vehicles, unless the Executive Officer determines from the emissions information report that a recall is unnecessary.

(b) If the results of the in-use vehicle emission tests conducted pursuant to Section 2139 indicate that the average emissions of the test vehicles for any pollutant exceed the applicable emission standards specified in Title 13, California Code of Regulations, Section 1960.1, 1961, 1956.8, 1958 or 2412, the entire vehicle population so represented shall be deemed to exceed such standards. The Executive Officer shall notify the manufacturer of the test results and upon receipt of the notification, the manufacturer shall have 45 days to submit an influenced recall plan in accordance with Sections 2113 through 2121, Title 13, California Code of Regulations. If no such recall plan is submitted, the Executive Officer may order corrective action including recall of the affected vehicles in accordance with Sections 2122 through 2135, Title 13, California Code of Regulations.

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018 and 43105, Health and Safety Code.  
Reference: Sections 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107, 43204-43205.5 and 43211-43213, Health and Safety Code.

***Summary Explanation of Proposed Modifications***

*The addition of the term “test group” is a result of the CAP 2000 amendments and the addition of a new CCR section 1961 reflects the proposed LEV II emission standards.*

24. Amend title 13, CCR, section 2143 to read as follows:

**§2143. Failure Levels Triggering Recall.**

An engine family, test group or a subgroup shall be subject to a recall when the number of failures of a specific emission-related component exceeds the failure level set forth below, unless the Executive Officer determines from the emission information report that a recall is unnecessary pursuant to the criteria set forth in section 2148(a) and (b). Vehicles or engines in an engine family or test group are subject to recall at the following failure levels: 4 percent or 50 (whichever is greater) for 1990 through 1991 model year vehicles or engines; 3 percent or 50 (whichever is greater) for 1992 through 1993 model-year vehicles or engines; and 2 percent or 50 (whichever is greater) for 1994 and subsequent model-year vehicles or engines. The Executive Officer may extend the applicability of the 4 or 3 percent failure levels if he/she determines that proceeding to the next lower level will create an excessive administrative burden on the ARB or the vehicle manufacturers without a corresponding benefit in the reduction of emissions.

NOTE: Authority cited: Sections 39600, 39601 and 43105, Health and Safety Code. Reference: Sections 43000, 43009.5, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code.

***Summary Explanation of Proposed Modifications***

*The addition of the term “test group” is a result of the CAP 2000 amendments.*

25. Amend title 13, CCR, section 2144 to read as follows:

**§2144. Emission Warranty Information Report.**

(a) A manufacturer shall:

(1) Review warranty claim records for each engine family or test group on a quarterly basis to determine and compile by cumulative total the number of claims made for emission-related components. The data compiled shall be based on all warranty claims, without any prescreening of data as to the validity of the claims. In the case of heavy-duty vehicles or engines, a manufacturer may use nationwide data for monitoring warranty claims of a California-certified engine family or test group which is also certified by the United States Environmental Protection Agency.

(2) Categorize warranty claims for each engine family or test group by the specific emission control component replaced or repaired.

(3) On the basis of data obtained subsequent to the effective date of these regulations, file an emission warranty information report for each quarter when the cumulative number of unscreened warranty claims for a specific emission-related component or repair represent at least one percent or twenty-five (whichever is greater) of the vehicles or engines of a California-certified engine family or test group.

(b) The emission warranty information report shall contain the following information in substantially the format outlined below:

(1) [No change.]

(2) A description of each class or category of California-certified vehicles or engines affected by a warranty replacement or warranty repair of a specific emission-related component, including model year and engine family or test group.

(3) The number and percentage of vehicles or engines in each engine family or test group for which a warranty replacement or warranty repair of a specific emission-related component was identified.

(4) [No change.]

(c) Emission warranty information reports shall be submitted not more than 25 days after the close of a calendar quarter. Subsequent to the filing of an emission warranty information report, a manufacturer shall submit quarterly reports updating the number and percentage of emission-related warranty claims with the most recent information, unless a recall has been implemented. Emission warranty information reports and updates shall be submitted to the Chief, Mobile Source Operations Division, 9528 Telstar Avenue, El Monte, CA 91731.

(d) [No change.]

NOTE: Authority cited: Sections 39600, 39601 and 43105, Health and Safety Code. Reference: Sections 43000, 43009.5, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code.

***Summary Explanation of Proposed Modifications***

*The term “test group” has been added to reflect CAP 2000 amendments and the name of the Mobile Source Division has been amended to reflect the creation of the Mobile Source Operations Division.*

26. Amend title 13, CCR, section 2145 to read as follows:

**§2145. Field Information Report.**

- (a) [No change.]
- (b) All field information reports shall be submitted to the Chief, Mobile Source Operations Division, 9528 Telstar Avenue, El Monte, CA 91731, and shall contain the following information in substantially the format outlined below:
  - (1) [No change.]
  - (2) [No change.]
  - (3) A description of each class or category of California-certified vehicles or engines affected including make, model, model-year, engine family or test group and such other information as may be required to identify the vehicles or engines affected. The description shall include those engine families or test groups related to the affected engine family or test group through common certification test data allowed under Title 40, Code of Federal Regulations, Section 86.085-24(f), as amended December 10, 1984 or Title 40 Code of Federal Regulations, Section 86.1839-01, as adopted \_\_\_\_\_ (“carry-over” and “carry-across” engine families or test groups).
  - (4) [No change.]
  - (5) The number and percentage of vehicles or engines in each engine family or test group for which a failure of a specific emission-related component was identified.
  - (6) The total number and percentage of unscreened warranty claims and failures of a specific emission-related component projected to occur during the engine family’s or test group’s useful life and a description of the method used to project this number.
  - (7) [No change.]

NOTE: Authority cited: Sections 39600, 39601 and 43105, Health and Safety Code. Reference: Sections 43000, 43009.5, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code.

***Summary Explanation of Proposed Modifications***

*The term “test group” has been added to reflect CAP 2000 amendments and the name of the Mobile Source Division has been amended to reflect the creation of the Mobile Source Operations Division.*

27. Amend title 13, CCR, section 2146 to read as follows:

**§2146. Emissions Information Report.**

(a) through (b) -- [No change.]

(c) All emissions information reports shall be submitted to the Chief, Mobile Source Operations Division, 9528 Telstar Avenue, El Monte, CA 91731, and shall contain the following information in substantially the format outlined below. For purposes of this section, the term “failure” shall be considered synonymous with the term “defect” for those emissions information reports filed pursuant to subsection (a)(3), above.

(1) [No change.]

(2) [No change.]

(3) A description of each class or category of California-certified vehicles or engines affected by the failure including make, model, model-year, engine family or test group, and such other information as may be required to identify the vehicles or engines affected.

(4) through (7) -- [No change.]

NOTE: Authority cited: Sections 39600, 39601 and 43105, Health and Safety Code. Reference: Sections 43000, 43009.5, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code.

***Summary Explanation of Proposed Modifications***

*The term “test group” has been added to reflect CAP 2000 amendments and the name of the Mobile Source Division has been amended to reflect the creation of the Mobile Source Operations Division.*

28. Amend title 13, CCR, section 2147 to read as follows:

**§2147. Demonstration of Compliance with Emission Standards.**

(a) [No change.]

(b) A manufacturer may test properly maintained in-use vehicles with the failed emission-related component pursuant to the applicable certification emission tests specified in Title 13, California Code of Regulations, Section 1960.1 or 1961, as applicable, for passenger cars, light-duty trucks and medium-duty vehicles, Section 1956.8 for heavy-duty engines and vehicles, and Section 1958 for motorcycles. The emissions shall be projected to the end of the vehicle's or engine's useful life using in-use deterioration factors. The in-use deterioration factors shall be chosen by the manufacturer from among the following:

(1) [No change.]

(2) [No change.]

(3) Subject to approval by the Executive Officer, a manufacturer-generated deterioration factor. The Executive Officer shall approve such deterioration factor if it is based on in-use data generated from certification emission tests performed on properly maintained and used vehicles in accordance with the procedures set forth in Section 1960.1 or 1961 of Title 13 of the California Code of Regulations as applicable for passenger cars, light-duty trucks, and medium-duty vehicles; Section 1956.8 of Title 13 of the California Code of Regulations for heavy duty vehicles and engines; and Section 1958 of Title 13 of the California Code of Regulations for motorcycles, and if the vehicles from which it was derived are representative of the in-use fleet with regard to emissions performance and are equipped with similar emission control technology as vehicles with the failed component.

(c) [No change.]

NOTE: Authority cited: Sections 39600, 39601 and 43105, Health and Safety Code. Reference: Sections 43000, 43009.5, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code.

***Summary Explanation of Proposed Modifications***

*The addition of a new CCR section 1961 reflects the proposed LEV II emission standards.*

29. Amend title 13, CCR, section 2148 to read as follows:

**§2148. Evaluation of Need for Recall.**

(a) through (b) -- [No change.]

(c) If a manufacturer can identify a subgroup of an engine family or test group which is subject to a failure, a recall may be limited to that subgroup with Executive Officer approval.

NOTE: Authority cited: Sections 39600, 39601 and 43105, Health and Safety Code. Reference: Sections 43000, 43009.5, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code.

***Summary Explanation of Proposed Modifications***

*The addition of the term “test group” is a result of the CAP 2000 amendments.*